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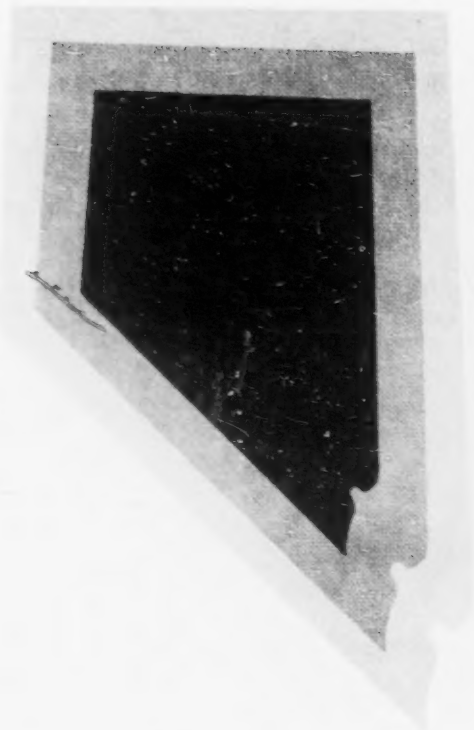

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General Editorial Policy

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The Statute of Anne in Nevada*

*by Larry D. Strate***

The medium of exchange to pay for food, rooms and gaming has changed, and is no longer just "dust or coin." Payment is now tendered in the form of negotiable instruments, i.e. checks, or some form of credit — a marker or credit instrument.[1]

Even though Nevada was the pioneer in legalizing casino gambling, legalized debt collection was not allowed for the industry late in the twentieth century, when the Nevada legislature enacted the "Debt Collection Act" of 1983. This statute abrogated a part of the Statute of Anne, one of the statutes adopted from English common law. The Statute of Anne held gaming debt collection to be illegal and against public policy.

No single enactment, except perhaps the Gaming Act of 1933, has had such an impact upon the industry. For the first time in the history of gaming in Nevada, the primary industry of the state could collect its debts through the courts

This paper is a review of the Statute of Anne in Nevada through 1983, when the "Debt Collection Act," which is comprised of two enactments ("Recovery of Gaming Debts by Licensees," Nevada Revised Statutes 463.367-368, and "Recovery of Gaming Debts by Patrons," N.R.S. 463.361), fundamentally changed the law regarding the collection of gaming debts in Nevada. Prior to 1983, collection was in-house and self-help. In the United States, wagering and gaming contracts have met with little countenance from the courts, and consequently in nearly every state including Nevada they have been illegal as being inconsistent with the interests of the community and at variance with the laws of morality (2 Smith's Lead. Cas. 343).

In England, from time to time under common law, gaming was practiced innocently as a recreation and was not in itself unlawful. But while it was a recreation for royalty, public gaming houses were considered nuisances. Thus, an enactment after its namesake, the Statute of Anne, reprinted here, was adopted as common law.

> That all notes, bills, bonds, judgments, mortgages, or securities or conveyances whatsoever given, granted, drawn or entered into, or executed by any person or persons whatsoever, where the whole, or any part of the consideration of such conveyances, or securities shall be for any money, or other valuable thing whatsoever, or by betting on the sides or hands or such as do game at any of the games aforesaid, or for the reimbursing or repaying any money knowingly lent, or advanced at the time and place of such play, to any person or persons so gaming or betting as aforesaid, or that shall, during such play, so play or bet shall be utterly void, frustrate, and of non effect, to all intents and purposes whatsoever. [9 Anne, C.14, 4 Bac. Abr. p. 456].

In order to protect the common person from his own vices, the Statute of Anne was adopted by every state. There have been a few states, however, that have replaced the statute in this decade to allow gaming debt collection: Nevada, California, New Jersey, and Wisconsin.

The Predebt Collection Period

For nearly 125 years, Nevada's court decisions rendered under the Statute of Anne were a constant reminder that whether it was a note in McLusky's Bar in Pioche, Nevada, in 1872, or a check at the Ormsby House in Carson City, Nevada, in 1980, debts incurred or checks drawn for gaming purposes were void and unenforceable—as in any other state! And, consistently, actions for the collection of money won in gambling, when the patron sought recovery, were also unenforceable.

Historically, all public gaming houses were considered nuisances, not only because they were deemed to be great temptations to idleness, but also because they were apt to draw together great numbers of disorderly persons (4 Bac. Abr. 451). As a result, English judges were reluctant to sustain contracts growing out of gaming.

The Statute of Anne was one of the statutes of England in effect when Nevada became a Territory, and then a State, and subsequently it was adopted by statute in 1883. In *Hamilton v. Kneeland* [1 Nev. 37, 46, 47 (1865)], Chancellor Kent, after saying that the common law of England, so far as it is applicable to our situation and government, has been adopted as an entire system in several of the older states, adds:

> It has been assumed by the courts of justice or declared by statute, with the like modifications, as the law of the land in every state. It is also the established doctrine that English statutes, passed before the emigration, constitute a part of the common law of this country [1 Kent's Com. 473].

In *Norris v. Harris* (15 Cal. 258), Chief Justice Field, after stating that the common law of England was repeatedly presumed to exist in the original states,

> A similar presumption must prevail as to the existence of the common law in those States which have been established in Territories acquired since the Revolution, where such Ter-

*This article is a revised version of a paper presented at the 6th National Conference on Gambling and Risk Taking, Atlantic City, New Jersey, December 1984, and reprinted in the Proceedings of the same conference.

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ritory was not, at the time of its acquisition, occupied as an organized and civilized community, when in fact the population of the new State upon the establishment of government, was formed of the emigration from the original States (*Hamilton v. Kneeland,* above).

In adopting the common law of England, the state of Nevada, like other states, adopted it as modified by certain statutes enacted by the English Parliament prior to the revolution, and the Statute of Anne became a part of the laws of this state [*Evans v. Cook,* 11 Nev. 69 (1876)]. Reprinted here is the 1883 Act adopting the common law:

> The Common Law of England, so far as it is not repugnant to or inconsistent with the Constitution or laws of the United States, shall be the rule of decision in all Courts of this Territory, or the constitution and laws of this state, shall be the rule of decision in all the courts of this state [1911 CPA #532; RL #5474; NCL #9021, N.R.S. 1.030].

The first section of the statute, became the law of the state under the rule of *stare decisis Edsen v. May,* 36 Nev. 611, 135, p. 1185 (1913)].

The Statute of Anne, although not recognized by name, is better known because of its subject matter — gaming debt collection. It has two sides; one that voids and makes unenforceable checks drawn or debts incurred for gaming purposes, and the other that precludes patrons from collecting winnings from gaming.

Gaming Not Legal in Nevada

Even though gaming was legal in Nevada in the 1860s, it has not always been legal. In a seven-section statute that became effective October 1, 1910, public gaming was outlawed, and it stayed so until 1931. This enactment prohibited gambling by itemizing some twenty forms of gaming, and outlawing any game, slot machine, or book or pool, and provided for the destruction of all gambling property. Failure to do so would result in not less than one year and not more than five years of imprisonment. Section 4 provided an affirmative duty for all sheriffs, constables, police, and peace officers to "break open the doors for purposes of obtaining the devices"; section 5 precluded the self-incrimination exemption, and section 7 was the enactment date [Statutes of Nevada, 24th Session, Chapter CCX, pp. 307-309].

Public opinion having changed again toward liberality, the legisature enacted the so-called open gaming law in 1931 and itemized various legalized games, devices, fees, penalties for violations, and other matters.

The official position of gaming today in Nevada is stated in the Nevada Revised Statutes (N.R.S. 463.0129). The statement of policy was codified in 1955, some 25 years after the gaming act. It states that the gaming industry is vital to the state and its inhabitants, that the growth and success of the industry is based upon public confidence and trust, and that strict regulation of all persons, locations, practices, associations, and activities is essential.

Recovery of Gaming Debts by Licensees

Recovery of gaming debts by licensees has been practiced by owners and operators of gaming establishments since they began to allow credit play. Most debt collection (certainly prior to 1983) was done on an extra-judicial basis. The focus point of this paper is judicial collection. However, it is germane to point out that the former collection methods were used effectively for some 125 years.

One side of the Statute of Anne made checks given or debts incurred for gaming void and unenforceable, and that included various forms of debt: notes, certificates of deposit, pledging of stock, and checks.

Promissory Notes. The earliest gambling-debt case in Nevada occurred in 1876 and involved a promissory note for $704.75 signed by Mr. Hanley for a gambling loss. Two other individuals joined in the action in order to protect themselves from an attachment against Hanley's property, only to find themselves jointly and severally liable when the case ended in an empty judgment (when one has won the case and the losing party has no assets) when payment was demanded. It was these other two individuals who claimed the defense that consideration for the money was gambling. The court said:

> all notes, bills, bonds . . . given . . . by any person or other valuable thing whatsoever, won by gaming, . . . shall be utterly void, frustrate, and of none effect, to all intents and purposes what-soever [4 Bac Abr. 456); *Evans v. Cook,* 11 Nev. 69, 75 (1876)].

It was a good defense to an action on a promissory note to show that the consideration for which it was given was money won by gambling.

Certificates of Deposit. In 1909 in *Burke v. Buck* [31 Nev. 74 (1909)], Mr. Hamilton Buck was in the Texas Saloon in the town of Goldfield, Nevada, playing roulette. He played the wheel with varying fortune until he lost about $1,000. After losing this amount of money he endorsed a certificate of deposit, gave it to the dealer, and received $500 in gold coin. He then notified the bank that he had lost the instrument in gambling and instructed his bank not to honor the instrument. The bank acknowledged its debt on the certificate and paid it into the registry of the court and the court ruled in favor of Mr. Buck.

The court concluded:

> In view of the evidence disclosed in this case, which shows that this assignment was made at a gaming table, and during the progress of the play, it comes squarely within the statute above quoted, and therefore the consideration is, by the specific terms of the statute, "utterly void, frustrate and of none effect" [*Burke v. Buck,* above, p. 81].

Pledge of Stock. Another case in 1909 involved a pledge of stock. Mr. A. C. Marsh, cashier of a brokerage firm in Esmeralda County, Nevada, had been drinking and gambling in a saloon. He had purchased certain stock on the company "stock" account. He had gambled, and had given checks to cover $2,000. The next morning, outside the saloon, Mr. Marsh gave a 90-day note for the loss, and furnished stock certificates for 200 shares of Goldfield Consolidated Mine Company and 100 shares of Goldfield Combination Fraction Mining Stock. (Marsh did not own the stock!) The stock company refused to transfer the stock when it was presented. Marsh then raised the defense of the Statute of Anne indicating that the money lost at gaming was money

secured by stock. The court cited *Burke v. Buck*, above, stating:

> there being no valid obligation, there could be no lawful consideration for the security as a pledge. Under these circumstances the defendants cannot legally be considered pledgees or bona fide purchasers of the stock in dispute [*Menardi v. Wacker*, 32 Nev. 169 (1909)].

Checks. Checks are the most prevalent negotiable instrument as they expedite payment in commercial transactions. Checks are viewed as an item to be paid upon presentment, hence valid defenses may be raised to stop payment. Checks given for gaming purposes may be viewed either as checks returned due to insufficient funds, or checks returned *not* because of insufficient funds, e.g., a stop payment.

The important distinction is that the Statute of Anne shields the latter from criminal liability when a person has lost at gambling but has not paid his/her losses, while the former are not shielded from criminal liability when a person cashes a check for insufficient funds in a gaming casino and uses the proceeds for gaming.

Insufficient Funds Checks. Insufficient funds checks (NSF) involve a question of the enforcement of criminal statutes and the prosecution of criminal fraud. In a 1974 opinion by then Attorney General Robert List (AGO 173, Oct. 22, 1974) there is no statutory exception to the criminal liability where the proceeds are used for gambling. The penalty for passing bad checks is found at NRS 205.130. There in several pages are the circumstances under which one may be prosecuted and sentenced to prison terms for not less than one year and not more than 10 years and fines of not more than $5,000.

Checks Not for Insufficient Funds. The Statute of Anne shields one who has lost at gambling but who has not paid his/her losses. NSF cases involve the issue of whether a civil action will lie for collection of money involving enforcement of gaming debts in Nevada courts.

The initial case, *Scott v. Courtney* [7 Nev. 1045 (1872)], involved the owner of a gambling casino who brought suit to collect a gambling debt. The court held for the defendant on the grounds that gambling debts were not collectible. An issue raised in this case involved the effect of the licensing statutes. The statute which permitted gambling only prevented criminal prosecution of those duly licensed to conduct the public gaming house and did not constitute a change of the public policy declaring such businesses public nuisances.

In *Menardi v. Wacker* [32 Nev. 169, 173 (1909)] a cashier of a brokerage firm in Esmeralda County had been drinking and gambling in a saloon and gaming house in Reno and wrote $2,000 in checks to cover his losses. The opinion in this case cited *Burke v. Buck* [31 Nev. 74], concluding "a check given for a gaming debt is void under the laws of the state." On October 23, 1948, Leonard H. Wolff lost some $86,000 playing "21" at the West Indies, Inc., in Reno. He gave West Indies checks in the sums of $7,000, $29,000, and $50,000 drawn on First National Bank of Nevada, and died on the same day. Those checks were dishonored by the bank. The administrator of the estate sought, in behalf of the estate to assert the defense that the checks had been given in payment at a gambling game. The court ruled in the administrator's favor, stating that in its opinion the Statute of Anne would shield one who had lost at gambling and not paid the losses [*West Indies v. FNB*, 67 Nev. 13, 214 P.2d 144 (1950)].

Multiple Checks. Mr. Eugene B. Wolpert gambled in the Townclub, a cafe, bar and casino in Ely, Nevada. On four different occasions, over a period of three days, Mr. Wolpert went to the cashier's desk at the Townclub and asked if they would cash his check. On each occasion when they cashed his checks he owed no money at all. The checks were for $500 each. Mr. Wolpert offered a check for $2,500 and received the four $500 checks in return. The proprietor of the gaming establishment had observed the patron from time to time, seeing him at various times bet $15 to $20 at the gaming tables, buy drinks for the house, give money to a girl, and pay $75 to $100 each to two of his own employees. He was also seen to leave the establishment frequently, returning later to cash another check. The fifth check was executed by Wolpert at the gambling table and delivered to the dealer, for which the dealer gave Wolpert $500 in chips which Wolpert proceeded to play at the table. The court held under these circumstances that the proprietor could recover $2,000 but not the $500, as it appeared that this advance of $500 had been gambled and lost. In making its decision, the court cited *Burke v. Buck* [31 Nev. 74, 99 P. 1078, 22 L.R.A., N.S., 627], *Craig v. Harrah* [66 Nev. 1, 201 P.2d 1081, 1084], and *Wolpert v. Knight* [74 Nev. 323, 330 P.2d 1023 (1958)].

Holder In Due Course. The next two cases were consolidated by the Nevada Supreme Court. In each case the effect of "holder in due course" status was addressed. In NRS 104.3302, a holder in due course is a holder who takes the instrument (a) for value, (b) in good faith, and (c) without notice that it is overdue or has been dishonored or of any defense against or claim to it on the part of any person.

In *Sea Air Support, Inc., v. Herrman* [96 Nev. 574 (1980)], Ralph Herrmann wrote a check for $10,000 payable to the Ormsby House, a hotel-casino located in Carson City, Nevada, and exchanged it for three counterchecks he had written earlier that evening to acquire gaming chips. The Ormsby House was unable to collect the proceeds from the check because Herrman had insufficient funds in his account. The debt evidenced by the check was assigned to Sea Air Support, Inc., doing business as Automated Accounts Associates, for collection. Sea Air was also unsuccessful in its attempts to collect. It was noted by the court that despite the fact that gambling, where licensed, is legal in Nevada, debts incurred and checks drawn for gambling purposes are void and unenforceable. Sea Air promised to take "such legal action as is necessary to enforce collection." That promise to perform services in the future does not constitute taking for value under NRS 104.3303. In addition, Sea Air knew the check had been dishonored. Consequently, Sea Air was not a holder in due course.

In the same month, the Nevada Supreme Court again

faced the question of holder in due course status and the gaming uncollectibility issue. In *Sandler v. District Court* [96 Nev. 622, (1980)] Mr. Jerrold Sandler had written checks to and for the purpose of gambling, for "freeze out" game of "21" in Reno. The checks were drawn on a Maryland bank account and were presented to Nevada National Bank for clearance. It was undisputed in this case that the checks were drawn to engage in gambling or delivered for the express purpose of engaging in gambling ventures. As a matter of law, checks drawn for the purpose of gambling are void and unenforceable in this state [*Sea Air Support, Inc., v. Herrmann,* 96 Nev. 574, 613 P.2d 413 (1980); *Corbin v. O'Keefe,* 87 Nev. 189, 484 P.2d 565 (1971); *Wolpert v. Knight,* 74 Nev. 322, 330 p.2d 1023 (1958)].

Nevada National Bank claimed holder in due-course status, which would allow it to be immune from certain defenses, including the defense that the checks are void and unenforceable (Statute of 9 Anne, C.14, #1). However, a holder in due course is not immune to real defenses, i.e., those defenses which render the check, and the underlying obligation created thereby, entirely void [*Bankers Trust Co. v. Litton Systems,* 599 F.2d 488 (2d Cir. 1979); *Middle Georgia Livestock Sales v. Commercial Bank & Trust Co.,* 182 S. E. 2d 533 (GA. App. 1971); White & Summers, Uniform Commercial Code #1410 at 487-488]. Because the Statute of Anne renders the checks herein void *ab initio,* the defense may be asserted against Nevada National Bank [*Pacific National Bank v. Herneich,* 398 S. W. 2d 221 (Ark. 1966)].

Recovery of Gaming Debts by Patrons

While the Statute of Anne shielded one who had lost at gambling and not paid the losses (recovery of gaming debts by casinos), it also provided a shield against a patron's recovery of winnings. The courts would not recognize an action for the collection of money won in gambling—even when the patron sought recovery. As with the recovery of gaming debts by casinos, this form of "debt" was not given legislative protection until 1983.

Faro. In early 1872, the shield was used in *Scott v. Courtney* when Mr. Russell Scott attempted to recover $2,100 lost at a game of faro in McKlusky's Public Gaming House in Pioche, Nevada. The only question raised on appeal was whether money won at a public gaming table was recoverable by an action in this state. The court concluded it was not. Courtney's argument, that by licensing gaming Nevada law changed the "old law" (i.e., the Statute of Anne), was not persuasive. The court said simply: "We think not." The "old law" was based upon the philosophy that all public gaming houses were nuisances, not only because they were deemed great temptations to idleness, but also because they were apt to draw together great numbers of disorderly persons (4 Bac. Ab. 451). It would therefore seem to follow that money won in such a house by the keeper could not be recovered, because everything connected with or growing out of that which was illegal partook of its character, and was tainted with its illegality. There is no doubt whatever that upon this principle at common law, money won in a public gaming house could not be recovered by the keeper [*Scott v. Courtney,* 7 Nev. 1045, 1047, (1872)]

Cases involving patrons seeking recovery are few and far between, probably because of the *Scott v. Courtney* decision. The next case was 86 years later, in 1958.

Keno. On May 23, 1956, Mr. Jack Weisbrod paid $3.50 for a keno ticket at the Fremont Hotel in Las Vegas. He brought suit because he was not paid the winning amount of $12,500. In a brief opinion, the court said that an action does not exist for the collection of money won in gambling. Of these cases — *Scott v. Courtney,* 7 Nev. 419; *West Indies v. First National Bank,* 67 Nev. 13, 214 P.2d 144; *Evans v. Cook,* 11 Nev 69; *Burke v. Buck,* 31 Nev. 74, 99 P.1078,22 L.R.A., N.S., 627; and *Menardi v. Wacker,* 32 Nev. 169, 105 P.287 — only *Scott v. Courtney* focused on the point of collection of money won in gambling by a patron.

In *Weisbrod,* the court spoke of proprietors who permitted, if not encouraged a patron to gamble upon credit. It said:

> So long as such practices remain lawful, however, the rule must be held to apply equally to all lawful gambling transactions. It must, then, cut both ways. If money won at gambling is not recoverable through resort to the courts it is not because of who has won it but because of the nature of the transaction itself [*Weisbrod v. Fremont Hotel,* 74 Nev. 227, 229, (1958)].

This case enunciated two important aspects of the Statute of Anne; first, the protection of the statute "to cut both ways," and second, an administrative remedy to be available for the patron. Circumstances were to change after 1983.

In the third and final case involving a patron attempting to recover a "debt" allegedly owed him, Mr. Kenneth W. Corbin sought to recover $20,000 on a winning bet of $100 at 200-to-1 odds (that the Boston Red Sox would win the American Baseball League pennant in 1967). When he attempted to collect on the bet at the Jockey Turf Club, the club's proprietors rebuffed his attempts on the basis that the bet had been taken by an employee who failed to record it and who kept the money, so the club never received the bet. Corbin subsequently attempted to get aid via the Nevada Gaming Control Board, but was denied relief there, and took the action to the Second Judicial District Court. The court in less than a page affirmed the lower court decision. It said that this was a court action for the recovery of a gambling debt, and that the court had refused to aid in the collection of gambling debts for nearly a century and would not depart from those cases [see especially *Scott v. Courtney,* 7 Nev. 419 (1872); *West Indies v. First Nat. Bank,* 67 Nev. 13, 214 P.2d 144 (1950); *Weisbrod; Corbin v. O'Keefe,* 87 Nev. 189, 190 (1970)].

Legislative Action

At this point in debt-collection development, a judicial admonition became a focal point. In *Sea Air Support, Inc., v. Herrmann* [96 Nev. 574, 576, 613 P.2d 413, (1980)], the court remarked: "If the law is to change, it must be done by legislative action." That legislative action was to occur in 1983. Two events prompted its passage.

First, prior to 1983 the industry was able to cope with the granting and collection of credit. The licensees were successful in collecting gaming debts without resorting to court action. The success of collection actually worked against the industry, for it was the pivotal point upon which the Ninth Circuit Court of Appeals decided, in *Flamingo Resorts, Inc., v. United States* [664 F 2d 1387 (1982)], that it was no longer possible to maintain the prevailing practice of not including gaming credit as income for federal tax purposes until payment was collected. The court relied upon the fact that the casino's rate of collection of gaming debts was as high as 96%. It was the conclusion of the court that this rate assured a reasonable expectancy of collection, allowing the amount of the debt to be determined with reasonable accuracy, and thus "fixed" for the purposes of federal income tax.

And secondly, casino gaming became legalized in Atlantic City, New Jersey. The passage of New Jersey Statute N.J.S. 5:12-101 (f) sparked interest in Nevada, for this statute declared that checks for gaming were valid instruments and enforceable in the courts of New Jersey. It may only have been conjecture, but it appeared that debts were being collected in New Jersey before they were being collected in Nevada. The New Jersey statute is reprinted here:

> f. Notwithstanding the provisions of any law to the contrary, checks cashed in conformity with the requirements of this act shall be valid instruments, enforceable at law in the courts of this State. Any check cashed, transferred, conveyed or given in violation of this act shall be invalid and unenforceable. L.1977, c.110, #101, eff. June 2, 1977.

Thus, the close of the period ended with a fervor by industry to prompt legislative action in the state of Nevada. Change came to Nevada in 1983 in a significant way when the Statute of Anne was modified to render certain debts collectible in Nevada.

CONCLUSION

It would seem logical that a territory which permitted gaming as an industry in the 1860s would have allowed the industry to lawfully collect its debts—but it did not. Nevada's court decisions rendered under the Statute of Anne were a constant reminder that debts or checks drawn for gaming purposes were void, and that actions to collect winnings by patrons were also unenforceable.

It may seem strange that the gaming industry waited until 1983 to make a concerted effort toward statutory approval of gaming debts. There was little impetus to force the casinos to pursue court remedies because the industry collection rate was 96%, a fact that the U.S. Tax Court relied upon to change its position that no tax was due until cash was received in payment of the markers. The collection rate was high enough that the "debts" were fixed for income tax purposes.

The second important change was legalized casino gambling in Atlantic City, New Jersey. With its own debt collection provision, debts were being collected in New Jersey before Nevada.

These two factors were to lead the Nevada gaming industry to seek and support a legislative change. As the Nevada Supreme Court had said: "If the law is to change, it must be done by legislative action." And so, after some 125 years of not being able to collect gaming debts legally in the state of Nevada, either as a licensee or a patron, the "Debt Collection Act of 1983" was to fundamentally change the law regarding the collection of gaming debts in Nevada and for the first time in the history of the territory or state, casinos could now legally collect gaming debts legal in Nevada in courts in the state.

Footnote:

[1] "Credit instrument" is defined as a writing which evidences a gaming debt owed to a person who holds a nonrestricted license at the time the debt is created, and includes any writing taken in consolidation, redemption, or payment of a prior credit instrument. (NRS 463.367)

Current Tax Reform Proposals and The Middle Income Taxpayer

*by Robert E. Blatz, Jr.**

Many taxpayers, both corporate and noncorporate, agree on one issue: the current U.S. tax system needs reform. The present tax structure not only restricts economic growth, but it is also perceived as unfair and unnecessarily complicated. In his 1984 State of the Union message, President Reagan charged then-Treasury Secretary Donald T. Regan to develop a plan to simplify and fundamentally reform the U.S. tax system. This plan was formally presented to the president on November 27, 1984 (U.S. Department of the Treasury, 1984).

The first Treasury plan received a cool reception both inside and outside the White House. Much fault was found with its "economic neutrality" across business lines. Tax-favored industries (e.g. capital-intensive, oil and gas, real estate), threatened with the loss of long-standing tax preferences, embarked on an intensive lobbying campaign. These efforts resulted in a revised tax reform plan which was presented to the Congress and the Nation on May 29, 1985 (U.S. Department of the Treasury, 1985).

Much controversy surrounds the purported effect of the second Treasury plan (hereinafter referred to as T-II) on taxpayers. For example, the Treasury maintains that T-II will lower taxes for most individual taxpayers (U.S. Department of the Treasury, 1985, pp. 1-30) Other studies, such as that of the Government Finance Research Center, have asserted that T-II will actually raise taxes for a significant number of individual taxpayers (McGovern and Peterson, 1985). This article presents the findings of a study utilizing 1983 *Statistics of Income* (SOI) aggregate tax data (Hostetter and Holik, 1984-85). The purpose of this study was two-fold: (1) to address the conflicting results of the two aforementioned studies in order to either ascertain the "correct" result or understand the nature of the conflict; and (2) to measure and explain the aggregate effect of T-II on middle income taxpayers.

Framework for Assessing the Impact of T-II

Table 1 is a compilation of the major reform measures found in T-II. Various tax reform items affecting the individual taxpayer are set out in Column 1. These items are then defined and contrasted with current law in Columns 2 and 3. Table 1 thus provides a summary and comparison of current tax law and T-II tax-reform proposals. *(see page 8)*

Table 2 illustrates a tax return which demonstrates the effect of T-II proposals at the $30,000 to $50,000 level of adjusted gross income (AGI).1. This exhibit was derived from aggregate data made available by the Statistics of Income Division of the Internal Revenue Service. The various amounts of income, exclusions, deductions, exemptions, and credits are weighted averages computed from the 1983 preliminary data for individual tax returns (Hostetter and Holik, 1984-85). Table 2 is a *composite return* of the $30,000 to $50,000 AGI level rather than a *return of a specific taxpayer* within this AGI level. *(see pages 8-9)*

Five AGI levels were chosen for study: (1) $17,000 to $19,000 AGI, (2) $20,000 to $30,000 AGI, (3) $30,000 to $50,000 AGI, (4) $50,000 to $75,000 AGI, and (5) $200,000 to $500,000 AGI. The first four levels represent middle income taxpayers whereas the fifth level represents the low end of high-income taxpayers. Approximately 41.3% of total returns filed in 1983 indicated AGI levels between $17,000 and $75,000. The $200,000 to $500,000 range represents 0.17% of all returns filed. Table 3 summarizes this data and other data relating to the study. Note that the combined $17,000 to $75,000 AGI levels account for almost 51% of all taxable returns filed and approximately 64% of the total income tax liability for 1983. *(see page 10)*

Implications Tables 4 and 5 summarize the findings of this study. Table 4 also compares these findings to those of Treasury (T-II) and the Government Finance Research Center (GFRC). The study indicates that middle income taxpayers can generally expect rather modest tax decreases under T-II. These results differ with the findings of the other two studies. Note that T-II projects greater tax decreases while the GFRC projects tax increases. The primary reason for these conflicting results can be traced to the underlying assumptions of each study. The T-II and GFRC studies made qualitative judgments as to the status of taxpayers studied. T-II assumed a one-income family of five whereas the GFRC study assumed a two-income family of four. In contrast, this study made no such preconceived assumptions. Rather, taxpayer attributes were determined solely by the SOI data. *(see page 10)*

More importantly, this study (unlike the other two) analyzed various levels of AGI rather than specific tax-

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Table 1

Tax Item	Current Law (1986)	Treasury Plan (T-II)
Individual tax rates	14 rate brackets from 11% to 50%, indexed	3 rate brackets 15%, 25%, & 35%, indexed
Exemptions		
Self, spouse	$1,080, indexed	$2,000, indexed
Dependents	$1,080, indexed	$2,000, indexed
Zero-bracket amount		
Single	$2,480, indexed	$2,900, indexed
Joint	$3,670, indexed	$4,000, indexed
Heads of household	$2,480, indexed	$3,600, indexed
Two-earner deduction	Yes	No
Child-care expenses	Tax credit	Deduction
Fringe Benefits		
Health insurance	Not taxed	Limited amount taxed
Group-term life insurance, legal services, dependent care, education assistance	Not taxed	Not taxed
Wage Replacement		
Unemployment compensation	Taxed if AGI over $12,000 ($18,000 if married)	Taxed
Workers' compensation	Not taxed	Taxed, but eligible for expanded and indexed credit for elderly and disabled
Veterans' disability benefits	Not taxed	Not taxed
Itemized Deductions		
State and local income tax	Deductible	Not deductible
Other state and local taxes	Deductible	Not deductible, unless incurred in income-producing activity
Charitable contributions	Deductible by itemizers and nonitemizers	Deductible for itemizers, but no deduction for non-itemizers
Mortgage interest	Deductible	Deductible, for principal residences
Other personal interest	Personal interest deductible; investment interest limited to $10,000 over investment income	Limited to $5,000 over investment income for expanded definition of interest subject to limit (with phase-in)
Medical expenses	Deductible (above 5% of AGI)	Deductible (above 5% of AGI)
Tax Abuses		
Entertainment expenses	Deductible	Not deductible
Business meals and travel expenses	Deductible	Deduction denied for 50% of meal costs above cap
Income shifting to children and via trusts	Permissible	Curtailed, except for post-death trusts
Retirement savings		
IRA	$2,000	$2,000
Spousal IRA	$ 250	$2,000
Corporate pensions	Tax deferred	Tax deferred
Social security	Generally not taxed	Generally not taxed
Capital and business income		
Dividend relief	$100/200 exclusion	Exclusion repealed
Depreciation	ACRS	Indexed, with investment incentive
Investment tax credit	6% - 10%	No
Capital gains	60% excluded	50% excluded (optional indexing in 1991)
Interest income/ expense	Fully taxed/deductible	Fully taxed/deductible
Municipal bonds		
Public purpose	Tax-exempt	Tax-exempt
Private purpose	Tax-exempt	Taxable
Rehabilitation and energy credits	Yes	No
Minimum tax on individuals	Yes	Retain and tighten

Source: Office of the Secretary of the Treasury, Washington, D.C., May 28, 1985.

Table 2

Comparison of Tax Consequences of the T-II Proposals to Current Law (Utilizing 1986 Tax Rates)

	Current Law	Proposals	Comments on Proposal
Income Items			
Salary	34,168	34,468	481 (k) plan exclusion limited to $8,838 net of IRA
Salary	0	0	Contribution/$128 or $388 of empl. med. premium included
Director's Fees	0	0	
Other Personal Service	0	0	
Dividends (Qualifying)	355	555	Exclusion repealed
Interest & Dividends (NQ)	2,119	2,119	
Pensions	1,087	1,087	
Rental Income	1,000	1,000	
Rental Expenses	1,186	1,186	Interest expense could be affected
Depreciation	0	0	Depreciation could be affected
Net Rental Income	-186	-186	
Tax Shelter income	0	0	Loss generated by depreciation and interest could be affected

Table 2
(Continued)

Comparison of Tax Consequences of the T-II Proposals to Current Law (Utilizing 1986 Tax Rates)

	Current Law	Proposals	Comments on Proposal
Income Items			
Lump Sum Pension - Ord.	0	0	Eligible for special treatment if over 55
Lump Sum Pension - CG	0	0	Eligible for special treatment if over 55
Net Capital Gain (Loss)	-127	-127	50% exclusion instead of 60%/some gains become ordinary
Other Income	1,550	1,417	
Less			
Employee Bus. Exp. & Misc. Ded.	323	347	Deductible Portion Exceeds 1% of AGI
Contribution to IRA or KEOGH	836	836	
Other Adjustments to AGI	661	41	No two-earner married couple deduction
AGI (Excludes Lump Sum Pen.)	37,146	38,109	
Deductions			
State & Local Income Tax	1,190	0	Deduction repealed
Mortgage Interest	2,211	2,211	
Other Interest	984	984	Limited to investment income + $5,000
Contributions	728	728	
Medical	284	156	
Real Property Taxes	775	0	Deduction repealed
Sales Taxes	420	0	Deduction Repealed
Other Misc. Sch. A.	419	0	Deductible towards AGI
Other	44	163	
Total Deductions	6,967	4,234	
Exemptions	3,248	6,000	Raised to $2,000 per exemption, except for 65 or blind
Zero Bracket Amount	3,678	4,000	Raised
Taxable Income	30,609	31,875	
Tax Calculations			
Status	Joint	Joint	
Federal Tax:			
1. Tax Schedules	4,755	4,469	Generally lower rates
2. Averaging	0	0	Averaging repealed
3. 10 Year Averaging	0	0	Eligible for special treatment if over 55
4. Alternative Min. Tax	0	3,775	Revised exemptions and deductions
Applicable Tax	4,755	4,469	
Investment Tax Credit	53	0	ITC repealed
Foreign Tax Credit	7	7	
Other Credits	68	0	
Net Federal Tax	4,635	4,462	
Percentage Change		-3.74%	

payers within these levels. In a sense, the findings are similar in nature to economic indicators in that they report the aggregate effect of T-II on all taxpayers within a certain level of AGI. In short, specific taxpayers situated within the various levels of AGI included in the study may or may not experience the reported tax decrease or increase depending on their respective tax circumstances.

As shown above, the study indicates that middle income taxpayers can generally expect rather modest tax decreases under T-II. These decreases (see Tables 4 and 5) result from the combined changes T-II made to the two basic components of the income-tax formula: (1) the tax base and (2) the tax rate structure. The income tax is the product of these two components.[2] Note that tax liability can be increased or decreased by modifying the tax base, the tax rates, or a combination of the two. T-II clearly reduces tax rates (see

Table 1). Furthermore, it modifies the tax base by eliminating certain deductions (e.g. state and local taxes) and by increasing others (e.g. the zero bracket amount and exemptions).

Table 5 compares current tax-base and tax-rate figures contained in the study with those of T-II. Note that at the $17,000 to $19,000 level the tax base is reduced by 11.61% whereas the after-credit average tax rate increases by 11.49%. This indicates that the actual decline in taxes after credits (1.71%) is primarily due to T-II's tax-base modifications (especially those which increase the zero bracket and exemption amounts) rather than its reduced tax-rate structure. An examination of the $200,000 to $500,000 level, however, shows a different result. Here the tax base increases by 10.59% while the after-credit average tax rate decreases by 23.12%. This indicates that the actual decline in taxes after credits (15.02%) is primarily due to T-II's reduced tax-rate structure rather than its tax-base modifications. In short, Table 5 shows that middle- income taxpayers are less radically affected by T-II than their high-income counterparts. In fact, middle-income tax-rate reductions prove to be more apparent than real. Furthermore, any such reductions are often offset by T-II's base broadening measures. High-income taxpayers (especially those at the top marginal level), however, are greatly benefitted by the tax-rate reductions of T-II (i.e. 50% reduced to 35%).

Table 3

Middle-Income Taxpayer Demographics

AGI Level	% of all Returns	% of Taxable Returns	% of Total Income Tax
X 000			
$17—19	4.5%	5.5%	2.8%
20—30	16.8	20.8	16.8
30—50	16.2	20.0	30.0
50—75	3.8	4.6	14.0
17—75	41.3	50.9	63.6
200—500	0.17	0.21	5.8

Table 4

Comparison of Study Results

Present Study		T-II		GFRC	
AGI Level	Tax Effect	AGI Level	Tax Effect	AGI Level	Tax Effect
X 000		X 000		X 000	
$17—19	-1.71%	$15-20	-13.5%	$15	-18.0%
20—30	2.87	20-30	- 8.7	25	2.0
30—50	-3.74	30-50	- 6.6	35	2.4
50—75	-2.65	50-100	- 4.2	50	1.5
200—500	-15.02	200+	-10.7	75	0.1

Conclusion

Controversy surrounding the tax effect of T-II can be traced to varying assumptions concerning taxpayer status. Although the T-II study accurately reflects the effect of Treasury's reform measures on one-income families of five, its conclusions cannot be extended to include two-income families of four. This fact is clearly demonstrated by the GFRC study. On the other hand, this study, due to its aggregate methodology, affords an opportunity for generalized comment on T-II's effect. This study indicates that middle-income taxpayers can, on the whole, expect rather modest reductions in their future tax bills. This conclusion presumes that T-II is adopted in its original form. Tax reform, however, is shaped by political realities and one cannot reasonably expect Congress to adopt T-II verbatim.

Although the House Ways and Means Committee has been actively drafting tax legislation, tax reform appears stalled for 1985. On November 6, President Reagan charged that the House panel was diluting T-II's fundamental principles through various political concessions, such as scrapping T-II's proposed elimination of the deduction for state and local taxes. Treasury Secretary Baker is even said to be boycotting the committee's meetings. Further more, Ways and Means still must address other major issues — tax rates, capital recovery, and corporate taxes — before it can report a tax bill to the full House. Recent weekend sessions, however,

Table 5

Comparison of Tax Base and Tax Rate Changes Under T-II

	Tax Base			Actual Taxes Before Credits			Average Tax Rates Before Credits			Actual Taxes After Credits			Average Tax Rates After Credits		
Levels of AGI	Current	T-II	Change	Current	T-II	Change	Current	T-II	Change	Current	T-II	Change	Current	T-II	Change
X 000			%			%			%			%			%
$17—19	$12,769	$ 11,287	-11.61%	$1,161	$ 1,093	- 5.86%	9.1%	9.7%	6.59%	$1,112	$1,093	- 1.71%	8.7%	9.7%	11.49%
20—30	17,706	16,919	- 4.44	1,958	1,938	- 1.02	11.1	11.5	3.60	1,880	1,934	2.87	10.6	11.4	7.55
30—50	30,609	31,875	4.14	4,755	4,469	- 6.01	15.5	14.0	- 9.68	4,635	4,462	- 3.74	15.1	14.0	- 7.28
50—75	46,212	50,176	8.58	9,487	9,044	- 4.67	20.5	18.0	-12.20	9,249	9,004	- 2.65	20.0	17.9	-10.50
200—500	226,078	250,024	10.59	92,970	77,008	-17.17	41.1	30.8	-25.06	90,033	76,508	-15.02	39.8	30.6	-23.12

indicate Ways and Means's resolve to report such a bill by Thanksgiving. Meanwhile, the Senate has yet to take any significant action in the area of tax reform. In fact, the Senate Finance Committee has scheduled no tax-reform drafting sessions for the remainder of 1985. These events indicate that tax reform is not realistic before 1986, an election year.

Footnotes:

[1]Similar tables for the other studied levels of AGI are available from the author upon request.

[2]The income tax is further refined by tax credits, which are neither part of the tax-base nor part of the tax-rate structure. Tax credits reduce the gross tax liability determined by the aforementioned formula (see also Table 5).

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A Salary Survey of CPA Firms in the Reno/Sparks Area

*by B. J. Fuller**

In the spring of 1984 the author sampled CPA firms in the Reno/Sparks area to determine salary and fringe benefits for accountants. The need for this first sample was suggested by the many requests received from local accounting firms for data on compensation. A second sample was conducted as of July 31, 1985, to update the original data.

Fifteen local CPA firms were included in the sample — all of the larger ones (those with 25 or more professional staff) and a nonrandom sample of the smaller ones. All of the firms, except two of the larger firms and one of the smaller firms, responded to the request for data.

Table 1 presents salaries for professional staff from entry

Table 1

Base Salary for Entry Level Professional Staff and for Currently Employed Professional Staff with Up to Five Years of Service, Along with Other Salary Related Information

		FIRMS										
Experience in Years		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
	0	$16,800	$17,400	$18,000	$16,500	$17,347	$18,500	$18,000	$16,000	$16,800	$ 0	$18,720
	1	18,000	18,600	19,600	18,000	18,941	20,100	19,000		19,200	14,000	0
	2	20,400	21,600	20,500	19,500	0	0	0	0	0	0	0
	3	24,000	24,000	21,500	22,500	22,330	24,200	0	0	0	0	22,000
	4	27,000	30,000 +	27,000	26,000	28,000	26,200	0	0	0	0	0
	5	30,000	34,800	32,000	30,000	31,200	41,500	27,000	25,000	24,000	35,000	0
Frequency of Salary Reviews		Annually	Annually	Annually	Semi-Annually	Annually	Annually	Annually	Semi-Annually	Annually	As Needed	Annually
Date of Last Review[a]		7-1-85	12-31-84	7-1-85	1-85	6-1-85	7-1-85	7-1-85	5-1-85	1-185	Various	1-1-85
Paid Holidays		9	8	6	10	9	7	0	8	7	6	8
Overtime Premium		No	No	No	No	Yes	Yes	No	No	No	No	No
Comp Time[b]		No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
Both (OP and/or CT)[c]		Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes
Mandatory Comp		No	Yes	No	No	No	No	Yes	No	Yes	No	No
Discretion of Firm		No	No	Yes	No	Yes	No	No	Yes	No	No	No
Disc. of Employee		Yes	No	Yes	Yes	No	Yes	No	No	No	No	Yes
Overtime Rate[d]												
Years Employed	1	ST	ST	ST	ST	ST	ST	ST	ST	ST		TH
	2	ST	ST	ST	ST	ST	ST		ST	ST		TH
	3	ST	ST	ST	ST	ST	ST		ST	ST		TH
	4	ST	ST	ST	ST	ST	ST		ST	ST		TH
	5	ST		ST	ST	ST		ST	ST	ST		TH
	More than 5	ST		ST	ST	ST		ST	ST	ST		TH

[a] Firm's most recent personnel review.
[b] Compensatory vacation time given in lieu of overtime pay.
[c] OP: Overtime — time and one half of straight time.
CT: Compensatory time.
[d] ST: Straight time.
TH: Time-and-a-half.

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level to those with five years experience. Only one firm paid a premium for MBAs, and that firm also paid a premium for tax personnel.

Paid holidays ranged from six to ten days. Overtime was paid at the straight-time rate except for one firm that paid time-and-a-half.

Table 2 presents fringe benefits along with selected information on specific benefits at the eleven firms. Only one of the firms included dental care as part of their health insurance plan and none of the firms included optical benefits. Professional dues paid by the firms generally included state society and AICPA membership dues. All of the firms paid dues for other selected civic and professional organizations to which the professional staff members belonged.

Table 2
Fringe Benefits Along with a Breakdown of a Few Specific Benefits Added to the Base Salary

	FIRMS										
Experience in Years	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Health Insurance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dental Benefits			No								
Optical Benefits			No								
Life Insurance	✓	✓	✓	✓	✓	✓		✓	✓		✓
Profit Sharing Plan				✓	✓						
Retirement Plan		✓				✓					
College Tuition			✓		✓	✓	✓				
Prof. Org. Dues	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Other (List	Auto Allow. Continuing Educ.			Athletic Club Membership		Continuing Educ. CPA Exam[a]					
Prof. Dues Paid											
State Society	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AICPA Memb.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NAA Dues	✓		✓		✓	✓	✓			✓	✓
Firm-Paid Premiums											
MBA	No	No	No	No	No	2000	No	No	No	No	No
Tax Personnel	No	No	No	No	No	2000	No	No	No	No	No
Mgmt. Advisory Personnel	No	No	No	No	No	No	No	No	No	No	No

✓ indicates that the benefit is provided.
[a] Including time off and cost.

Nevada Economic Indicators

Statewide Statistical Data

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
Total Labor Force (000's)	501.1†	502.9†	507.9	504.0	+ 1.3	+ .6
Total Employment (000's)	459.7†	465.1†	467.0	463.9	+ 2.0	+ 2.5
Unemployment (000's)	41.1†	37.5†	40.3	39.6	— 4.7	+ 3.8
Unemployment Rate	8.2†	7.5†	7.9	7.9	— 5.6	+ 3.1
Unemployment Rate (Seasonally Adjusted)	8.2†	7.8†	8.2	8.1	+ 5.7	+ 3.9
Agricultural Empl. (000's)	5.1†	5.4†	6.3	5.6	+ 50.0	+ 0.6
Establishment Based Industrial Employment						
Total All Industries (000's)	444.6†	448.1†	449.1	447.3	+ 2.1	+ 5.1
Mining	6.8†	6.9†	7.0	6.9	+ 0.5	+ 5.6
Contract Construction	24.8†	25.2†	25.9	25.3	+ 8.4	+ 11.5
Manufacturing	21.2†	21.5†	21.6	21.4	+ .9	+ 2.9
Transportation & Utilities						
Transportation	13.6†	13.9†	14.0	13.8	+ 2.2	+ 2.7
Railroads	1.4†	1.4†	1.4	1.4	+ 0.0	+ 0.0
Air	2.7†	2.7†	2.7	2.7	+ 0.0	— 8.0
Public Utilities	11.4†	11.6†	11.5	11.5	+ .9	+ 0.0
Total Trade	88.8†	89.6†	90.1	89.5	+ 1.5	+ 5.6
Wholesale Trade	15.2†	15.2†	15.3	15.2	+ 1.8	+ 5.1
Retail Trade	73.6†	74.4†	74.8	74.3	+ 3.8	+ 5.7
Finance, Ins., Real Estate	20.9†	21.0†	21.0	21.0	+ .5	+ 5.2
Service Industries	195.7†	196.9†	198.3	197.0	+ 2.6	+ 5.6
Hotels, Amusement and Recreation Combined	125.5†	126.7†	128.3	126.8	+ 3.7	+ 6.1
Medical and Health	16.4†	16.3†	16.3	16.3	+ 0.0	+ 2.3
Total Government	61.4†	61.5†	59.7	60.9	+ .7	+ 2.7
Federal	10.1†	10.2†	10.4	10.2	+ 3.4	+ 2.7
State and Local	51.3†	51.3†	49.3	50.6	+ .2	+ 2.7
Education	23.0†	22.9†	20.4	22.1	— 1.6	+ 2.6
Average Weekly Earnings in Selected Industries						
Mining	577.15†	570.84†	582.22	576.74	+ 3.6	+ 5.5
Construction	580.58†	585.23†	583.27	583.03	— .7	— 7.1
Manufacturing	369.36†	372.91†	369.15	370.47	+ 1.4	+ 2.1
Public Utilities	531.36†	547.16†	496.36	524.96	+ 3.0	+ 6.6
Trade	287.78†	284.39†	292.87	288.35	+ 2.3	+ 4.1
Average Weekly Hours in Selected Industries						
Mining	43.2†	42.6†	43.0	42.9	+ 1.7	+ 1.2
Construction	36.4†	36.6†	36.5	36.5	+ 1.9	— 1.0
Manufacturing	40.5†	40.8†	40.7	40.7	+ 1.5	+ 1.8
Public Utilities	41.0†	41.8†	38.9	40.6	+ 1.6	+ 1.3
Trade	34.3†	34.1†	34.7	34.4	+ 1.3	+ .4
Average Hourly Earnings in Selected Industries						
Mining	13.36†	13.40†	13.54	13.43	+ 1.8	+ 4.3
Construction	15.95†	15.99†	15.98	15.97	— 2.6	— 6.2
Manufacturing	9.12†	9.14†	9.07	9.11	— .1	+ .4
Public Utilities	12.96†	13.09†	12.76	12.94	+ 1.4	+ 5.2
Trade	8.39†	8.34†	8.44	8.39	+ 1.0	+ 3.7

Statewide Statistical Data (Continued)

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
Construction Activity						
Residential ($000's)	110,300	61,500	74,100	245,900	+ 25.1	+ 63.0
Nonresidential ($000's)	23,000	48,200	17,300	88,500	+ 30.5	– 10.8
Nonbuilding ($000's)	45,700	26,800	16,300	88,800	+ 92.2	+ 55.2
Total ($000's)	179,000	136,500	107,700	423,200	+ 36.3	+ 4.6
# of New Dwelling Units	1,520	781	539	2,840	+ 24.7	– 38.9
Tax Collections ($)						
Liquor	1,165,463	1,161,146	1,105,885	3,432,494	+ 22.7	– 2.1
Cigarette	1,644,943	1,787,577	1,580,280	5,012,800	+ 14.0	+ 2.7
Fuel	3,398,959	3,906,018	3,987,652	11,292,629	+ 10.7	+ 2.5
Quarterly Taxable Sales ($000's)	–	–	–	793,634	– 57.4	– 58.9
Quarterly Gaming Revenues ($000's)	–	–	–	845,698	+ 4.1	+ 13.2
Highway Traffic Flow						
17 Selected Stations (Avg. Daily)	114,152	125,005	137,437	125,531	+ 29.6	+ 6.6

† Revised.

Las Vegas Standard Metropolitan Statistical Area

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
Total Labor Force (000's)	282.1†	282.6†	284.4	283.0	+ .6	– .7
Total Employment (000's)	257.3†	259.4†	259.1	258.6	+ 1.1	+ 2.9
Unemployment (000's)	24.5†	22.9†	24.8	24.1	– 1.1	+ 2.4
Unemployment Rate	8.7†	8.1†	8.7	8.5	– 1.5	+ 2.8
Unemployment Rate (Seasonally Adjusted)	8.8†	8.5†	8.9	8.7	+ 5.2	+ 4.8
Agricultural Employment (000's)	.9†	.9†	1.1	1.0	+ 52.6	+ 0.0
Establishment Based						
Industrial Employment						
Total All Industries (000's)	251.1†	252.1†	251.7	251.6	+ 1.5	+ 5.3
Mining	.4†	.4†	.4	.4	+ 0.0	+ 9.1
Contract Construction	15.2†	15.2†	15.5	15.3	+ 5.5	+ 8.3
Manufacturing	7.6†	7.6†	7.7	7.6	+ 1.3	+ 1.8
Transportation & Utilities						
Transportation	8.1†	8.2†	8.3	8.2	+ 2.5	+ 1.2
Railroads	.5†	.5†	.5	.5	+ 0.0	+ 0.0
Air	2.1†	2.1†	2.0	2.1	+ 0.0	– 11.4
Public Utilities	5.9†	6.1†	6.0	6.0	+ 1.1	– 2.7
Total Trade	51.1†	51.5†	51.7	51.4	+ 1.2	+ 6.2
Wholesale Trade	7.7†	7.8†	7.9	7.8	+ 2.2	+ 4.5
Retail Trade	43.4†	43.7†	43.8	43.6	+ 1.1	+ 6.5
Finance, Ins., Real Estate	12.2†	12.3†	12.3	12.3	+ .8	+ 6.7
Service Industries	121.0†	121.1†	121.2	121.1	+ 1.3	+ 5.9
Hotels, Gaming & Recreation	77.1†	77.4†	77.6	77.4	+ 2.2	+ 6.9
Total Government	29.6†	29.7†	28.6	29.3	+ .9	+ 3.4
Federal	5.3†	5.4†	5.4	5.4	+ 2.5	+ 3.2
State and Local	24.3†	24.3†	23.2	23.9	+ .6	+ 3.5
Education	11.6†	11.5†	10.2	11.1	– .9	+ 3.4
Construction Activity						
Las Vegas						
Residential ($000's)	27,430	6,595	5,965	39,990	+ 45.1	+ 98.7
Nonresidential ($000's)	20,890	13,744	4,147	38,781	+ 43.3	+ 26.3
Total Value ($000's)	48,320	20,339	10,112	78,771	+ 44.2	+ 54.9
# of New Family Units	961	148	130	1,239	+ 51.1	+ 148.8
North Las Vegas						
Residential ($000's)	–	–	–	–	–	–
Nonresidential ($000's)	–	–	–	–	–	–
Total Value ($000's)	–	–	–	–	–	–
# of Permits	–	–	–	–	–	–
Energy Consumption						
Sales (000's KWH)	427,927	462,957	607,056	1,497,940	– 1.6	– .6
# of Customers	227,583	228,739	229,710	228,677	+ 1.3	+ 4.2
Taxable Sales ($000's)	–	–	–	11,374	– 98.4	– 98.9
Gaming Revenues ($000's)	–	–	–	562,696	– 1.9	+ 19.7
Air Transportation-McCarran						
Passengers (Arr. & Depart.)	944,425	916,365	849,989	2,710,779	– .7	+ 11.8
Cargo Enplaned (lbs.)	1,781,303	1,300,119	900,266	3,981,688	– 13.8	+ 58.0
Cargo Deplaned (lbs.)	2,543,807	1,889,729	1,433,016	5,866,552	– 18.1	+ 18.9
Highway Traffic Flow						
4 Selected Stations (Avg. Daily)	33,676	35,953	37,299	35,642	+ 19.1	+ 9.1
Room Tax ($)						
Clark County	2,074,100	2,027,120	1,749,175	5,850,395	– 1.3	+ 28.9
Las Vegas City	306,259	295,699	283,475	885,433	+ .2	+ 20.5
SMSA Total	2,391,307	2,335,533	2,043,857	6,770,697	– .9	+ 27.9

†Revised.

Reno Standard Metropolitan Statistical Area

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
Total Labor Force (000's)	135.7†	136.3†	137.2	136.4	+ 1.4	+ 2.5
Total Employment (000's)	126.8†	128.4†	128.7	128.0	+ 2.2	+ 2.1
Unemployment (000's)	8.9†	7.9†	8.4	8.4	– 9.7	+ 7.7
Unemployment Rate	6.5†	5.8†	6.1	6.1	– 11.1	+ 5.1
Unemployment Rate (Seasonally Adjusted)	6.3†	5.9†	6.6	6.3	+ 6.2	+ 3.3
Agricultural Employment (000's)	.6†	.6†	.7	.6	+ 46.2	+ 0.0
Establishment Based Industrial Employment						
Total All Industries (000's)	122.7†	123.7†	123.9	123.4	+ 2.6	+ 4.5
Mining	.8†	.8†	.8	.8	+ 9.1	+ 9.1
Contract Construction	6.1†	6.4†	6.6	6.4	+ 13.0	+ 15.8
Manufacturing	8.3†	8.2†	8.2	8.2	– .4	+ 2.9
Transportation & Utilities						
Transportation	4.0†	4.1†	4.1	4.1	+ 2.5	+ 4.3
Railroads	.4†	.4†	.4	.4	+ 0.0	+ 0.0
Public Utilities	4.1†	4.1†	4.1	4.1	+ 2.5	+ 2.5
Total Trade	26.2†	26.4†	26.4	26.3	+ .5	+ 3.0
Wholesale Trade	6.2†	6.2†	6.2	6.2	+ 1.1	+ 3.9
Retail Trade	20.0†	20.2†	20.2	20.1	+ .5	+ 2.7
Finance, Ins., Real Estate	6.7†	6.7†	6.7	6.7	– .5	+ 2.6
Service Industries	49.5†	50.0†	50.6	50.0	+ 4.7	+ 5.7
Hotels, Gaming & Recreation	30.8†	31.3†	32.0	31.4	+ 6.2	+ 5.7
Total Government	17.0†	17.0†	16.4	16.8	– 1.0	+ 1.2
Federal	2.8†	2.8†	2.8	2.8	+ 0.0	+ 1.2
State and Local	14.2†	14.2†	13.6	14.0	– 1.2	+ 1.2
Education	7.2†	7.2†	6.4	6.9	– 2.3	+ 1.5
Construction Activity						
Reno						
Residential ($000's)	8,465	7,340	7,735	23,540	+ 56.0	+ 11.4
Nonresidential ($000's)	1,068	1,649	1,976	4,693	– 53.9	– 7.4
Total Value ($000's)	9,533	8,990	9,711	28,234	+ 11.8	+ 7.8
# of New Family Units	206	248	167	721	+ 127.5	– 1.4
Sparks						
Residential ($000's)	2,048	2,466	3,725	8,239	– 56.9	– 19.6
Nonresidential ($000's)	1,801	4,142	2,017	7,960	+ 39.2	+ 31.0
Total Value ($000's)	3,849	6,608	5,742	16,199	– 34.7	– .8
# of New Family Units	51	165	58	274	– 60.6	+ 52.2
Washoe County (Unincorporated)						
Residential ($000's)	6,487	5,487	3,648	15,622	+ 11.7	+ 4.5
Nonresidential ($000's)	2,200	2,360	2,804	7,364	+ 12.8	+ 26.3
Total Value ($000's)	8,687	7,847	6,452	22,986	+ 12.1	+ 10.6
# of New Family Units	73	59	42	174	– 11.7	+ 9.4
Taxable Sales ($000's)	–	–	–	517,532	+ 19.6	+ 9.7
Gaming Revenues ($000's)	–	–	–	171,380	+ 20.5	+ 1.8
Air Transportation-Reno						
Passengers (Arr. & Depart.)	232,326	229,245	228,505	690,076	– 5.0	– 1.9
Cargo Enplaned (lbs.)	641,738	598,103	568,361	1,808,202	+ 3.4	+ 1.2
Cargo Deplaned (lbs.)	557,699	571,987	609,821	1,739,507	+ 1.3	– 10.2
Highway Traffic Flow						
7 Selected Stations (Avg. Daily)	66,874	73,725	80,964	73,854	+ 31.5	+ 5.7
Room Tax ($)						
Washoe County	68,656	48,887	56,908	174,451	– 16.8	+ 5.3
Reno	728,953	699,132	815,641	2,243,726	+ 51.0	– 4.1
Sparks	83,309	77,407	99,557	260,273	+ 87.4	+ 79.0
SMSA Total	880,918	825,426	972,106	2,678,450	+ 46.1	+ 1.0

† Revised.

Nevada Statistical Data by County

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
CARSON CITY						
Total Labor Force	21,030†	21,060†	21,280	21,123	+ 1.5	+ 2.2
Total Employment	19,040†	19,330†	19,390	19,253	+ 2.6	+ 1.6
Unemployment	1,990†	1,730†	1,890	1,870	– 8.6	+ 8.5
Unemployment Rate	9.4†	8.2†	8.9	8.8	– 10.2	+ 6.4
Construction Activity						
Residential Value ($000's)	1,279	1,802	731	3,812	+ 42.7	– 23.3
Nonresidential Value ($000's)	748	994	954	2,696	– 6.5	+ 6.8
Total Value ($000's)	2,027	2,796	1,686	6,509	+ 17.2	– 13.1
# of New Family Units	14	16	7	37	+ 0.0	– .0
Taxable Sales ($000's)	–	–	–	70,015	+ 16.1	+ 8.5
Gaming Revenues ($000's)	–	–	–	10,473	+ 25.5	+ .0
CHURCHILL						
Total Labor Force	6,710†	6,740†	6,900	6,783	+ 3.3	+ 4.1
Total Employment	5,960†	6,070†	6,220	6,083	+ 5.2	+ 4.2
Unemployment	750†	670†	680	700	– 11.0	+ 4.0
Unemployment Rate	11.2†	10.0†	9.9	10.4	– 13.6	+ 0.0
Construction Activity						
Residential Value ($000's)	349	569	235	1,153	+ 84.5	– 4.2
Nonresidential Value ($000's)	0	309	210	519	+ 663.2	+ 296.2
Total Value ($000's)	349	878	445	1,672	+ 141.3	+ 25.3
# of New Family Units	5	7	3	15	+ 66.7	– 6.3
Taxable Sales ($000's)	–	–	–	21,757	+ 15.9	+ 9.2
Gaming Revenues ($000's)	–	–	–	1,825	+ 40.4	+ 41.6
DOUGLAS						
Total Labor Force	9,410†	9,600†	9,830	9,613	+ 5.1	+ 1.2
Total Employment	8,590†	8,870†	9,150	8,870	+ 5.3	+ 1.1
Unemployment	820†	730†	680	743	+ 2.3	+ 2.8
Unemployment Rate	8.7†	7.6†	6.9	7.7	– 2.9	+ 1.3
Taxable Sales ($000's)	–	–	–	55,782	+ 7.7	– 1.1
Gaming Revenues ($000's)	–	–	–	72,920	+ 12.7	+ 3.1
ELKO						
Total Labor Force	13,740†	13,880†	14,370	13,996	+ 3.6	+ 1.9
Total Employment	12,700†	13,050†	13,440	13,063	+ 5.2	+ 1.6
Unemployment	1,040†	830†	930	933	– 14.9	+ 5.7
Unemployment Rate	7.6†	6.0†	6.5	6.7	– 17.3	+ 3.6
Construction Activity						
Elko City						
Residential ($000's)	404	126	386	916	+ 126.7	– 45.5
Nonresidential ($000's)	1,057	19	404	1,480	+ 1351.0	– 61.0
Total Value ($000's)	1,461	135	790	2,386	+ 371.5	– 56.4
# of New Dwelling Units	4	2	6	12	+ 140.0	– 55.6
Taxable Sales ($000's)	–	–	–	50,037	+ 27.1	+ 10.8
Gaming Revenues ($000's)	–	–	–	19,756	+ 22.7	+ 7.2
ESMERALDA						
Total Labor Force	420†	410†	420	416	– 1.6	– 17.8
Total Employment	370†	370†	370	370	– .9	– 18.4
Unemployment	50†	40†	50	46	– 6.7	– 12.5
Unemployment Rate	11.7†	10.0†	11.2	11.0	– 11.8	+ 5.4
Taxable Sales ($000's)	–	–	–	2,855	+ 101.3	+ 35.2
EUREKA						
Total Labor Force	840†	850†	890	860	+ 8.4	+ 2.0
Total Employment	760†	780†	830	790	+ 11.3	+ 1.7
Unemployment	80†	70†	60	70	– 16.0	+ 5.0
Unemployment Rate	9.4†	7.7†	6.5	7.9	– 24.8	+ 1.3
Taxable Sales	–	–	–	5,515	– 19.2	+ 74.9

Nevada Statistical Data by County (Continued)

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
HUMBOLDT						
Total Labor Force	5,880†	5,960†	6,260	6,033	+ 6.0	+ 1.6
Total Employment	5,420†	5,550†	5,800	5,590	+ 8.5	+ 2.5
Unemployment	460†	410†	460	443	– 18.4	– 8.3
Unemployment Rate	7.8†	6.9†	7.3	7.3	– 23.1	– 10.6
Taxable Sales ($000's)	–	–	–	53,023	+ 184.9	+ 116.0
Gaming Revenues ($000's)	–	–	–	2,184	+ 36.0	– .1
LANDER						
Total Labor Force	2,310†	2,340†	2,370	2,340	+ 4.6	+ 6.7
Total Employment	2,130†	2,190†	2,250	2,190	+ 7.2	+ 8.1
Unemployment	180†	150†	120	150	– 22.4	– 10.0
Unemployment Rate	7.8†	6.2†	5.2	6.4	– 25.0	– 16.9
Taxable Sales ($000's)	–	–	–	8,534	+ 17.5	– 3.3
LINCOLN						
Total Labor Force	2,760†	2,760†	2,790	2,770	+ .8	+ 1.6
Total Employment	2,590†	2,620†	2,650	2,620	+ 1.7	+ 2.1
Unemployment	170†	140†	140	150	– 11.8	– 6.3
Unemployment Rate	6.1†	4.9†	5.1	5.4	– 11.5	– 8.5
Taxable Sales ($000's)	–	–	–	2,529	– 13.3	– 18.0
LYON						
Total Labor Force	6,070†	6,120†	6,350	6,180	+ 5.3	+ 5.8
Total Employment	5,310†	5,470†	5,640	5,473	+ 7.0	+ 4.1
Unemployment	760†	650†	710	706	– 5.8	+ 21.1
Unemployment Rate	12.5†	10.6†	11.1	11.4	– 10.9	+ 13.2
Taxable Sales ($100's)	–	–	–	16,025	+ 34.8	+ 15.4
MINERAL						
Total Labor Force	3,620†	3,650†	3,730	3,666	+ 1.1	– .6
Total Employment	3,350†	3,390†	3,440	3,393	+ 1.9	– 1.8
Unemployment	270†	260†	290	273	– 7.9	+ 17.1
Unemployment Rate	7.5†	7.1†	7.8	7.5	– 7.4	+ 18.5
Taxable Sales ($000's)	–	–	–	7,106	+ 43.3	+ 21.9
NYE						
Total Labor Force	3,740†	3,840†	3,970	3,850	+ 2.4	+ 5.9
Total Employment	3,440†	3,510†	3,590	3,513	+ 3.5	+ 1.9
Unemployment	300†	330†	380	336	– 2.9	+ 77.2
Unemployment Rate	8.0†	8.6†	9.6	8.7	– 5.1	+ 66.9
Taxable Sales ($000's)	–	–	–	19,720	+ 14.7	+ .9
Gaming Revenues ($000's)	–	–	–	1,333	– 1.3	– 7.7
PERSHING						
Total Labor Force	1,680†	166†	1,730	1,192	– 27.9	– 26.7
Total Employment	1,570†	1,600†	660	1,276	– 15.5	– 16.6
Unemployment	110†	60†	70	80	– 44.2	– 17.2
Unemployment Rate	6.7†	3.7†	4.0	4.8	– 43.5	– 19.1
Taxable Sales ($000's)	–	–	–	4,827	+ 61.2	+ 6.0

† Revised.

Nevada Statistical Data by County (Continued)

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
STOREY						
Total Labor Force	1,340†	1,400†	1,480	1,406	+ 6.8	– 4.3
Total Employment	1,240†	1,300†	1,380	1,306	+ 10.4	+ 2.9
Unemployment	100†	100†	100	100	– 25.0	– 50.0
Unemployment Rate	7.7†	7.2†	6.6	7.2	– 28.1	– 48.3
Taxable Sales ($000's)	–	–	–	2,701		– 3.3
Gaming Revenues ($000's)	–	–	–	640	+ 140.6	– .8
WHITE PINE						
Total Labor Force	3,810†	3,800†	3,930	3,846	+ 5.1	– 4.4
Total Employment	3,150†	3,270†	3,400	3,273	+ 9.2	– 2.2
Unemployment	660†	530†	530	573	– 13.6	– 15.3
Unemployment Rate	17.3†	14.0†	13.4	14.9	– 17.7	– 6.1
Construction Activity						
Total Value ($000's)	–	–	–	0		
# of Permits				0		
Taxable Sales ($000's)	–	–	–	10,981	+ 28.9	+ 1.7
Gaming Revenues ($000's)	–	–	–	511	+ 22.8	– 10.2

† Revised.

Selected U.S. Economic Indicators

Consumer Price Index & Indexes of Selected Categories
All Urban Consumers (1967 = 100%)

	April 1985	May 1985	June 1985	2nd Quarter 1985	PERCENT CHANGE 1st Quarter-1985 2nd Quarter-1985	PERCENT CHANGE 2nd Quarter-1984 2nd Quarter-1985
All Items	320.1	321.3	322.3	321.2	+ 1.2	+ 3.7
Food	301.6	301.0	309.3	304.0	+ 1.1	+ .7
Housing	345.9	348.5	350.4	348.3	+ 1.4	+ 4.1
Apparel and Upkeep	205.9	205.3	204.6	205.3	+ 1.0	+ 3.4
Transportation	320.0	321.4	321.8	321.1	+ 1.9	+ 3.0
Medical Care	398.0	399.5	401.7	399.7	+ 1.5	+ 6.1

Producer Price Indexes for Selected Commodity Groupings
(1967 = 100%)

All Commodities	309.3	309.9	309.5	309.6	+ .1	– .6
Fuel and Power	663.6	648.3	645.7	642.5	+ 2.1	– 3.0
Machinery and Equipment	298.3	298.8	299.1	298.7	+ .3	+ 2.0
Metals and Metal Products	316.9	316.3	315.1	316.1	+ .2	– .4
Nonmetallic Mineral Products	344.8	347.1	348.5	346.8	+ 1.2	+ 2.9
Textile Products & Apparel	210.5	210.7	210.2	210.5	+ .0	+ .2

U.S. Labor Force

Civilian Labor Force (000's)	114,325	114,890	116,572	115,262	+ 1.3	+ 1.4
Total Employment (000's)	106,175	106,880	107,819	106,958	+ 1.9	+ 1.7
Unemployment (000's)	8,150	8,011	8,753	8,304	– 6.5	– 2.2
Unemployment Rate	7.1	7.0	7.5	7.2	– 7.7	– 3.6
Unemployment Rate (Seasonally Adjusted)	7.3	7.3	7.3	7.3	– .5	– 2.2

DATA SOURCES

Information for statistical tables were developed in cooperation with the following sources.

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F.W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation - Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co. - Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture - Statistical Reporting Service; U.S. Dept. of Commerce-Bureau of Economic Analysis; Dept. of Labor-Bureau of Labor Statistics; White Pine County Regional Planning Commission.

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I certify that the statements made by me above are correct and complete.

Thomas F. Cargill

Correction: Please note that in the table of contents of the Spring 1985 issue of the *Nevada Review of Business and Economics*, the name Robert I. Nelson Rose should have read I. Nelson Rose.

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General Editorial Policy

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Classifying Nevada Counties by Natural Clusters: An Application of Cluster Analysis

By John D. Malloy and Thomas R. Harris *

INTRODUCTION

Since the 1981-82 recession, programs for economic development and diversification have been actively pursued in the state of Nevada. An Economic Development Commission was authorized and funded by the state legislature, and an economic development plan was established which targeted programs for economic development and diversification in the state. In pursuance of these economic goals, the state was divided into three areas, an urban north area (Washoe County), an urban south area (Clark County), and a rural area (balance of state counties). In each of these areas, specific diversification and development programs were made.

This three-part division of Nevada is usually accepted as the natural division of the state. Such a division may not be appropriate, however. The rural counties, often referred to as the "cow counties," are not all highly agricultural. Some have greater emphasis in mining while others have large federal government complexes. Therefore development programs which chiefly target agricultural issues may be appropriate for some rural counties but not for others.

In order to develop appropriate plans, a typology of the state of Nevada is needed. A proper typology will help to target economic development and diversification programs for a specific county or groups of counties. Several methods for combining individual areas into similar groups have been presented in previous studies. One method, factor analysis, has been used primarily to identify the underlying factors that explain variations in single variables in a study. Another, discriminant analysis, has been used to combine areas into a prearranged number of groups selected by an analyst. This procedure relies on the analyst's a priori ability to choose the proper number of groups in the study. Finally, cluster analysis can be used to place observations into a number of natural groups that are determined by the data.

Cluster analysis, unlike factor analysis, combines individual counties into groups that are most similar based on their variations over selected variables and measurements. By using selected socioeconomic and demographic variables, such as population, percentage of total employment in agriculture, etc., one can establish clusters of Nevada counties which have similar variable variations. Following identification of county clusters, it is possible to propose appropriate economic development and diversification programs in order to meet the characteristics of the specific clusters.

For this paper cluster analysis will be used to classify Nevada counties into groups which can be useful to target economic development and diversification strategies in the state. In pursuance of this objective the paper is divided into three parts: First, a literature review of previous studies which have used cluster analysis; second, a discussion of the data used for cluster analysis of the state of Nevada; and finally, a discussion of the results of the cluster procedure on Nevada counties, showing how these natural clusters can be used to target economic development and diversification programs.

LITERATURE REVIEW

In 1969, Cox, Siskin, and Allen used cluster analysis to classify communities in a twenty-two county region along the James River Basin in Virginia. Cluster analysis was used because it allowed for an objective and repeatable approach. The variables selected for the analysis were primarily economic variables, although population change and inter-county distance were among the variables included. Wiebe (1972) used cluster analysis to test the hypothesis that regional income and employment benefits of large-scale water projects would be closely related to the areas where the water projects were located. The Tennessee River Watershed was analyzed utilizing changes in selected variables over time. The variables in the study consisted of economic variables such as per capita income and capital investment, but also included demographic variables such as educational levels. As an initial step in the development of a comprehensive set of rural and small-community planning policies for the state of New Jersey, Airola (1982) developed a typology of that state's municipalities and then investigated a full range of municipalities from urban to rural areas. The typology also spanned a full range of variable types which included socioeconomic status, family life cycle, and agricultural productivity. This typology was used to target programs administered by both the state of New Jersey and the Farmer's Home Administration.

**John D. Malloy and Thomas R. Harris are a former Graduate Research Associate and Associate Professor, respectively, in the Department of Agricultural Economics at the University of Nevada-Reno.*

DATA

Airola (1982) stated that the variables chosen for cluster analysis clearly influence the classification and should also reflect the intended use of the classification. In order to determine development and diversification potentials in any area, it is necessary to first have area information on population, available workforce, and other socioeconomic variables that will be of interest to potential employers. Table 1 presents variables chosen for the cluster analysis of Nevada counties and the general dimension that these variables represent. The data was derived from two sources: One, county profiles published by the State of Nevada, Office of Community Services, and two, employment data from the Nevada Department of Employment Security.

The data was analyzed using the cluster procedure in the SAS statistical computer package.[1] First, the variables were standardized to account for the difference in scale in the units of measure. Next "Ward's method" of hierarchical clustering was applied to the standardized variables.[2] The "Ward's method" measures the loss of information which results from the grouping of individuals into a cluster by the total sum of squared deviations of every point from the mean of the cluster to which it belongs. At each step of the procedure, union of every possible pair of clusters is considered and the two clusters whose fusion results in the minimum increase in the error sum of squares are combined.

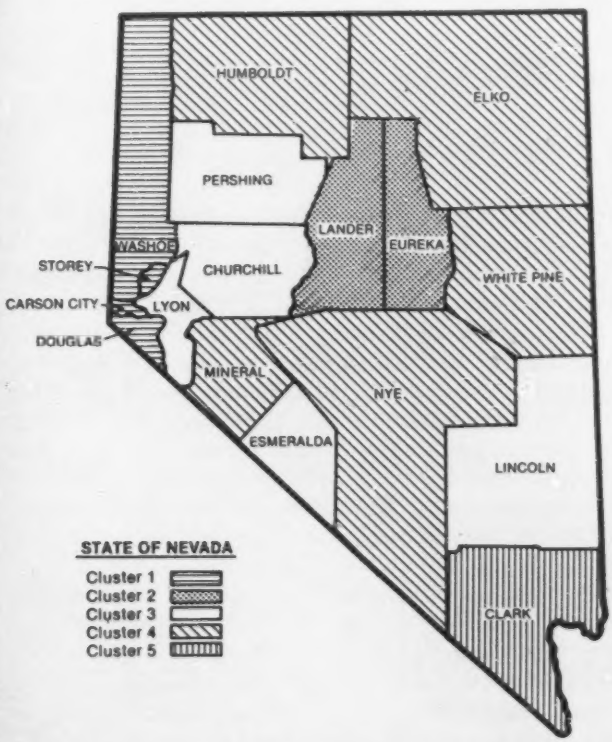

Figure 1. SPATIAL DISTRIBUTION OF NEVADA COUNTY CLUSTERS.

RESULTS

Table 2 presents the five clusters derived from the analysis and their component counties. A state map divided into the groups from the cluster analysis is shown in Figure 1. This map shows that while many contiguous areas are included in the same cluster, other clusters are spread out without regard to geographical location.

Table 1

Variables Selected for Cluster Analysis

	Variables	Dimension
1.	Population in 1980	Demographic
2.	Population Change from 1970 to 1980	Demographic
3.	Percentage of Population Under 18 Years of Age	Demographic
4.	Percentage of Population Over 65 Years of Age	Demographic
5.	Percentage of Population Living in Urban Areas	Demographic
6.	Percentage of White Population	Demographic
7.	Percentage of Population Living on Indian Reservations	Demographic
8.	Per Capita Income	Socioeconomic
9.	Unemployment Rate in 1980	Socioeconomic
10.	Percentage of Population Receiving Public Assistance	Socioeconomic
11.	Per Student Expenditures for Public Schools	Socioeconomic
12.	Percentage of Adult Population with High School Education	Socioeconomic
13.	Percentage of Workforce in the Gaming Sector	Employment
14.	Percentage of Workforce in the Agricultural Sector	Employment
15.	Percentage of Workforce in the Mining Sector	Employment
16.	Percentage of Workforce in the Manufacturing Sector	Employment
17.	Percentage of Workforce in the Government Sector	Employment
18.	Total Acreage (Thousand Acres)	Physical
19.	Percentage of Acreage Administered by the U.S. Government	Physical
20.	Gross Taxable Gaming Revenues for 1980 ($1000)	Gaming
21.	Percentage Growth in Gross Taxable Gaming Revenues from 1978 to 1980	Gaming

Table 2

County Groupings from the Cluster Analysis of Nevada Counties

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Washoe	Eureka	Churchill	Elko	Clark
Carson City	Lander	Esmeralda	Humboldt	
Douglas		Lyon	Nye	
Storey		Pershing	White Pine	
		Lincoln	Mineral	

Table 3

Mean Values for Groups Resulting from Cluster Analysis of Nevada Counties

	Variables:	Group 1 (N = 4)	Group 2 (N = 2)	Group 3 (N = 5)	Group 4 (N = 5)	Group 5 (N = 1)	All Counties (N = 17)
1.	Population	61,642.0	2,637.0	6,942.0	10,027.0	463,087.0	47,046.0
2.	Population Change (%)	2.2	1.4	1.4	1.2	1.7	1.5
3.	Individuals Under 18 (%)	24.3	31.0	29.4	30.0	28.0	28.5
4.	Individuals Over 65 (%)	8.8	6.0	11.6	9.6	8.0	9.5
5.	Urban Population (%)	68.5	6.0	7.8	43.0	96.0	33.9
6.	White Population (%)	94.3	92.0	92.6	87.0	84.0	90.6
7.	Per Capita Income ($)	10,750.0	10,739.0	8,405.0	9,164.0	10,321.0	9,570.0
8.	Unemployment Rate (%)	5.6	4.4	6.0	4.4	7.2	6.3
9.	Gross Taxable Gaming Revenues ($1,000)	178,201.0	545.0	394.0	10,910.0	1,676,406.0	140,000.0
10.	Growth in Gross Taxable Gaming Revenues (%)	6.2	-4.7	10.5	21.5	3.5	10.5
11.	Total Acreage (1,000 acres)	1,185.0	3,137.0	3,796.0	7,384.0	5,173.0	4,148.0
12.	Federal Lands (%)	48.0	87.0	84.0	85.0	89.0	76.0
13.	Per Student Expenditures ($)	2,788.0	3,673.0	3,796.0	2,375.0	2,121.0	3,028.0
14.	Public Assistance (%)	0.8	1.0	1.6	4.6	6.0	2.5
15.	Indian Population (%)	1.0	2.5	2.6	8.2	0.0	3.7
16.	Completion of High School (%)	82.0	65.0	69.0	68.0	74.0	71.0
17.	Gaming Employment (%)	25.0	1.5	2.4	10.4	28.0	11.5
18.	Agricultural Employment (%)	0.5	11.5	14.8	6.4	*	7.4
19.	Mining Employment (%)	8.5	46.5	8.0	6.4	*	11.7
20.	Manufacturing Employment (%)	6.0	*	4.6	8.0	3.0	3.6
21.	Government Employment (%)	16.5	16.0	25.4	22.0	15.0	20.6

*Less than 0.5%

Table 3 shows the clusters with their various means for each variable. According to Airola, a test for significance of the difference between the group means is not appropriate, as the number of groups identified is directly related to the objectives of the classification. However, an examination of Table 3 shows that there is considerable variation in the means of all variables. The variables that exhibited the greatest relative variation from other groups are used to characterize each group or cluster. The variables of choice for each group are shown in Table 4.

Cluster 1 represents the "Northern Urban" counties. This cluster has the largest percentage population growth in the state. The percentage of the population that lives in urban areas is the second largest at 58.5 percent and the area enjoys the second highest per capita income of all the clusters. Gaming is a very important part of the economy as can be seen from Gross Taxable Gaming Revenues and the high percentage of total employment in the Gaming Sector. The cluster also has the highest proportion of high school graduates in the state. The physical size of the counties is the smallest and the percentage of land under Federal government control is the lowest of all clusters.

Cluster 2 is composed of the counties of Eureka and Lander which means that, excluding the unique Clark County cluster, this is the smallest cluster in terms of members. This cluster is completely rural with none of the population living in urban areas and has high agricultural and mining employment. The population per county is the lowest of all clusters while the per capita income is the highest. The cluster has the highest percentage of people under 18 years of age and the lowest percentage of persons 65 years or older. This cluster, also, has the lowest percentage of adults who have a high school education.

Cluster 3 may be identified as the "Agricultural Counties" because it has the highest percentage of agricultural employment and a low percentage of people residing in urban areas. The per capita income is the lowest of any group and the area had a high unemployment rate in 1980. Gaming is not a large economic factor in this cluster, which has the lowest Gross Gaming Taxable Revenue figure

Table 4

Group Characteristics

Group Number, Descriptive Name, Variable Number and Rating	Mean Value
1. Northern Urban	
1 High Population	61,642.0
2 Highest Population Growth (%)	2.2
3 Lowest Individuals Under 18 (%)	24.3
5 High Urban Population (%)	58.5
6 Highest % White Population	94.3
7 High Per Capita Income ($)	10,750.1
9 High Gross Taxable Gaming Revenues ($)	178,201.0
11 Lowest County Acreage	1,185.0
12 Lowest % Federal Lands	48.0
16 Highest % Completion of High School	82.0
17 High % Gaming Employment	25.0
18 Low % Agricultural Employment	0.5
20 Highest % Manufacturing Employment	5.0
2. Northern Resource	
1 Lowest Population	2,637.0
3 Highest Individuals Under 18 (%)	31.0
4 Lowest Individuals 65 and Over (%)	6.0
5 Lowest % Urban Population	0.0
7 Highest Per Capita Income ($)	10,759.0
8 Lowest Unemployment Rate (%)	4.4
14 Low % on Welfare	1.0
16 Lowest % Completion of High School	65.0
17 Lowest % Gaming Employment	1.5
18 High % Agricultural Employment	11.5
19 Highest % Mining Employment	46.5
20 Lowest % Manufacturing Employment	*
3. Agricultural Counties	
4 Highest Individuals 65 and Over	11.6
5 Low % Urban Population	7.8
7 Lowest Per Capita Income ($)	8,405.0
8 High Unemployment Rate (%)	6.0
9 Lowest Gross Taxable Gaming Revenues ($)	394.0
13 Highest Per Student Expenditure ($)	3,796.0
17 Low % Gaming Employment	2.4
18 Highest % Agricultural Employment	14.8
20 High % Manufacturing Employment	4.6
21 Highest % Government Employment	25.4
4. Urban-Rural	
2 Lowest Population Growth	1.2
5 High % Urban Population	43.0
8 Lowest Unemployment Rate (%)	4.4
10 Highest Growth in Gross Taxable Gaming Revenues	21.5
11 Highest Total Acreage	7,348.0
13 Low Per Student Expenditure ($)	2,375.0
14 High % on Welfare	4.6
15 Highest % Indian	8.2
18 Low Agricultural Employment	5.4
19 Low Mining Employment	6.4
5. Clark County	
1 Highest Population	463,087.0
2 High Population Growth	1.7
5 Highest % Urban Population	96.0
6 Lowest % White Population	84.0
8 Highest Unemployment Rate (%)	7.2
9 Highest Gross Taxable Gaming Revenues ($)	1,676,406.0
12 Highest % Federal Lands	89.0
13 Lowest Per Student Expenditure ($)	2,121.0
14 Highest % on Welfare	6.0
17 Highest % Gaming Employment	28.0
18 Lowest % Agricultural Employment	*
19 Lowest % Mining Employment	*
21 Lowest % Government Employment	15.0

*Less than 0.5%

and the lowest percentage of the population employed in the gaming sector. This cluster also has the highest percentage of people over 65 years of age.

The fourth cluster shows the lowest percentage increase in population from 1970 to 1980. The counties are very large in area with the population concentrated in urban areas. This cluster also has the largest percentage of Native Americans living on reservations in the state. The counties had the lowest unemployment rate in 1980 although a high percentage of the population drew public assistance in that year. The cluster has a low per-student expenditure in the public school system and low employment in the agricultural and mining sectors.

Finally, cluster 5 is a single county, Clark County. It has more than half the population of the state and 98 percent of the population is concentrated in the urban areas surrounding Las Vegas. Gaming dominates the local economy as can be seen from the fact that the area has the highest Gross Gaming Taxable Revenues in the state and the highest percentage of the workforce employed in the gaming sector. The cluster has the highest percentage of non-white population, unemployment, and public assistance in the state along with the smallest per-student expenditures in the public school system.

By studying these five clusters, appropriate economic development and diversification programs can be devised to meet the needs of the specific cluster characteristics. The first cluster (Northern Urban) shows the effect that a metropolitan county (Washoe) can have on surrounding non-metropolitan counties (Carson City, Douglas, and Storey).

The Gaming Sector is an important sector in this cluster and efforts to diversify into other economic sectors may be warranted. Also, the education level of the Northern Nevada cluster's labor force may be used to attract industries requiring an educated workforce.

The second and third clusters (Northern Resource Cluster and Agricultural Counties Cluster) are rural counties which fit the popular characterization of rural Nevada counties as having an economic structure based on agriculture. Both clusters have high agricultural employment, and promotion of agricultural products could be beneficial to the economies. However, these two counties also have different characteristics which would require different programs. The Northern Resource Cluster has the highest proportion of total employment in the mineral industry. Therefore, the promotion of the mineral industry in this cluster would be advantageous to this cluster's economy. Also, community leaders should investigate the input supply linkages of its local mineral industry. By encouraging development of businesses to supply certain inputs to the mineral industry, the local economy would be capturing trade that is currently being lost. As for the Agricultural Counties, this cluster had the highest proportion of individuals who were 65 years and older. This age group, usually overlooked in economic development and diversification strategies, could be an avenue for business development in this cluster. The 65 years and older age group receive transfer payments from the federal government (Social Security and Medicare) and many receive retirement incomes from pensions and investments made earlier in their life cycle. Therefore, businesses which meet the demands of the elderly population could increase economic activity in the Agricultural Counties Cluster.

The Urban-Rural Cluster is a combination of five rural counties in which emphasis solely on the agricultural industry might not be an effective strategy. This area's casino industry has undergone a rapid expansion which could be used as a base for further economic growth. This cluster also had the highest percentage of total population on welfare and of persons who were Native Americans and live on a reservation. These demographic characteristics might be used by community decision makers to apply for economic development program funds designed specifically for these areas.

The fifth cluster is made up of a single county. Clark County (Las Vegas) has the state's largest Gaming Sector. Community leaders have focused on diversifying the economy so it is not wholly dependent on the gaming industry. They might also investigate the input linkages of the gambling casino industry to see if there are business opportunities for supplying some of the inputs currently being supplied from out of state. Also Clark County has the largest proportion of land under control of the federal government, which means that a large federal government complex is located in Clark County. An effective economic development strategy would be to encourage creation of businesses which could supply some of the needs of the federal offices in Clark County. The county also has the highest percentage of minority population of any of Nevada's five clusters. With Clark County's minority population and federal funds for minority businesses, an economic development plan should encourage development and promotion of minority businesses.

SUMMARY

With the recession of 1981-82, Nevada realized that it needed to diversify its economy instead of relying on the gaming industry. In deriving programs for economic development and diversification, decision makers need to be aware of the diversity and similarities of Nevada's counties. Cluster analysis was used to develop a typology of Nevada's seventeen counties and five major groupings were derived, ranging from the Clark County cluster to rural agriculture-counties clusters that were clearly separated by socio-economic, demographic, and spatial characteristics.

The results of the clustering procedure give decision makers a typology of the counties in Nevada that share similar characteristics. From this typology, decision makers can target economic diversification and development programs designed to meet the specific characteristics of these counties.

Footnotes:

[1]SAS (Statistical Analysis System) is computer software for information storage and retrieval, data modification and programming, report writing, statistical analysis, and file handling. The SAS procedure used in this paper utilized the mainframe computer and SAS program at the Northern Nevada Community College.

[2]A mathematical presentation of cluster analysis is presented in a referenced study by Everitt (1980).

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Profile of the Nevada Urban Economy: A Decade of Growth and Change

By Ronald M. Ayers*

Nevada is a unique state, strongly influenced by its western, frontier heritage, and known world-wide as a gaming and tourist mecca. It is also sparsely populated; its land area of 110,561 square miles has just 800,493 residents, according to the 1980 Census of Population. More than 80% of this population resides within one of the two Standard Metropolitan Statistical Areas (SMSAs) in the state, the Las Vegas and Reno SMSAs. Over 93% of the population within the SMSAs is counted as urbanized. Thus the proportion of urban dwellers within the state, approximately 75%, is about 10% greater than the proportion of urban dwellers for the nation as a whole.

Given the dominant economic role in these two highly urban areas, what is the nature of their economies? How do they differ? In what respects are they similar? What patterns of diversification are discernible? In order to provide answers to these questions and more, this paper presents and analyzes data that identify the components of growth and change for these SMSAs during the 1970s. This analysis should present some interesting data for evaluating the commonly-held proposition that the Nevada economy is too narrowly based.

METHODOLOGY

This study broadly follows the model proposed by Monti (1976) for evaluating urban growth by identifying and analyzing various components of the local economy. These elements include population, industrial employment, and income. The interpretation of the changes in each of these indicators will allow an assessment of the economic growth that occurred in the 1970s and provide a foundation for quantitative and qualitative forecasts of future growth.

The methodology to be employed includes:

- calculation of percentage changes from 1970 to 1980 in population, employment, and income;
- calculation of shares of components relative to Nevada, relative to the U.S., and between the two SMSAs;
- derivation of industrial distribution statistics and location quotients for SMSAs.

A caveat is in order concerning the data limitations. Given the constraint caused by comparing statistics at only two points in time, we are implicitly supposing that the data, primarily from the 1970 and 1980 censuses of population, are indicative of changes that occurred gradually throughout the decade rather than resulting from "non-normal" years in employment and income. A cross-comparison of these data from years immediately preceding and subsequent to census years indicates that this supposition is reasonable.

POPULATION

The population of the Las Vegas SMSA increased 69.4% from the 1970 to the 1980 census. This is substantially in excess of the overall Nevada increase of 63.8%, the highest rate of population growth among the states. The Reno SMSA lagged somewhat behind the state with an increase of 59.9%. All three rates are six to seven times higher than the U.S. rate of 10.1%. (See Table 1.)

Table 1

Percentage Change in Population, 1970-1980

U.S.	NV	SMSA Las Vegas	SMSA Reno
10.1%	63.8%	69.4%	59.9%

Source: Calculated from data found in U.S. Department of Commerce, Bureau of the Census, 1980 *Census of Population*, Volume 1, Chapter B, Part 30, Tables 14 and 26.

As shown in Table 2, age-distribution patterns for Las Vegas and Reno have been similar. One can also easily see a high degree of concordance between the age structures in 1969 and 1979. Nonetheless, in both areas the decline in the under-20 age group (a significant number of whom are economically dependent) is noteworthy, as is the gain in the 25-34 age group, the age group with large estimated buying power and labor market skills. This sort of change in the age composition of the population will, other things being equal, increase the size of the labor force and possibly the per capita income. This latter effect tends to arise because of

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Table 2

Population Age Profile, 1970 and 1980 (Percentage of Total SMSA Population in Each Age Category)

	SMSA Las Vegas		SMSA Reno	
	1970	1980	1970	1980
Under 20 years	38.6%	31.3%	35.1%	27.7%
20—24	8.3	9.9	8.5	10.5
25—34	15.6	18.0	13.5	19.6
35—49	19.2	18.7	19.4	18.3
50—64	13.1	14.4	15.6	15.4
65+	5.1	7.6	7.9	8.5

Source: Calculated from data found in 1980 *Census of Population*, Volume 1, Chapter B, Part 30, Table 26.

Table 3

Population of SMSAs as a Percentage of Population in Nevada

SMSA Las Vegas		SMSA Reno	
1970	1980	1970	1980
55.9%	57.8%	24.8%	24.2%

Source: Calculated from date found in 1980 *Census of Population*, Volume 1, Chapter B, Part 30, Tables 20 and 26.

Table 4

Percentage Change in Employment by Broad Industrial Source, 1970—1980

Industry	SMSA Las Vegas %Δ1970-80	SMSA Reno %Δ1970-80
Total Employment	+108.7%	+103.9%
Agriculture	70.2	52.9
Mining	30.3	78.6
Construction	91.0	96.5
Manufacturing	96.5	178.2
Durable	118.9	181.3
Nondurable	70.2	173.0
Transportation, Communications & Utilities	97.0	116.3
Wholesale Trade	151.4	66.6
Retail Trade	106.8	100.6
Finance, Insurance, & Real Estate	213.8	142.9
Services	110.1	198.3
Public Administration	78.7	77.7

Source: Calculated from data found in 1980 *Census of Population*, Volume 1, Chapter C, Part 30, Table 122.

the reduction in the proportion of economic dependents, such as children, who have no income of their own. (See Table 2.)

In order to compare the relative growth of population between SMSAs, each SMSA population was calculated as a percentage of the total Nevada population for both 1969 and 1979, as seen in Table 3. While the number of citizens in both Las Vegas and Reno was growing at an extraordinary rate, Reno's relative population share actually decreased slightly.

EMPLOYMENT

Where were employment opportunities becoming available to provide jobs for the burgeoning population? Table 4 reports the changes in source of employment between the two most recent censuses. A comparison of Las Vegas with Reno reveals two striking developments. The first is the much higher growth rate of manufacturing employment in Reno (178.2% vs. 96.5%). The second is the much higher growth rate of employment in finance, insurance, and real estate in Las Vegas (213.8% vs. 142.9%).

A comparison of Tables 3 and 4 reveals that the employment growth figure for Las Vegas exceeds the figure for Reno by 4.6%, while the comparable figure for population growth is 16.8%. One might conclude from this disparity in growth rates that Las Vegas has lagged behind Reno in the creation of per-capita employment opportunities. The opportunities for employment would not have appeared to suffer, however, if population growth in Las Vegas had been skewed toward the very young or very oldest age groups. The data in Table 2 indicate that, in fact, the "65 plus" age-group's population share shows stronger growth in Las Vegas, thus accounting for at least a portion of the disparity in growth rates seen in Tables 3 and 4.

Profiles of the Las Vegas and Reno industrial distributions for 1969 and 1979 are seen in Tables 5 and 6, respectively. For comparison, those of Nevada and the U.S. are also given in each table. The industrial distribution statistic is defined as employment by industry as a percent of total industrial employment in the place under consideration:

$$\frac{e_i}{e} \times 100$$

where: i = individual industries,
e = total employment in geographic place, and
$\sum e_i = e$.

The most recent profiles indicate that Las Vegas is somewhat more specialized in the area of service industries than is Reno. Alternately, the distribution statistic for manufacturing in Reno is 84% greater than the comparable statistic for Las Vegas. Furthermore, a comparison of the figures in Tables 5 and 6 shows that these respective specializations have strengthened over the decade under study. Compared to the national economy, however, it is seen that both Reno and Las Vegas are significantly more specialized in the direction of service industries and less specialized toward manufacturing.

The location quotient is a statistical construct that

measures, in terms of employment, the degree to which an industry is concentrated in a given place. It has been described as "an extremely useful descriptive measure in urban studies" (Heilbrun, 1974, p. 141).

Table 5

Industrial Distributions, 1970

Industry	Las Vegas	Reno	NV	U.S.
Agriculture	.008	.012	.024	.037
Mining	.004	.006	.019	.008
Construction	.085	.072	.082	.060
Manufacturing	.046	.058	.052	.259
Durable	.025	.037	.033	.153
Nondurable	.021	.021	.019	.106
Transportation, Communications & Utilities	.075	.087	.078	.068
Wholesale Trade	.020	.047	.026	.041
Retail Trade	.164	.171	.165	.160
Finance, Insurance, & Real Estate	.041	.057	.042	.050
Services	.491	.434	.439	.262
Public Administration	.065	.057	.073	.055

Source: Calculated from data found in 1970 *Census of Population*, Volume 1, Chapter C, Part 1, Table 92 and from Chapter C, Part 30, Tables 55 and 87.

Table 6

Industrial Distributions, 1980

Industry	Las Vegas	Reno	NV	U.S.
Agriculture	.007	.009	.017	.030
Mining	.003	.005	.013	.010
Construction	.078	.069	.079	.059
Manufacturing	.043	.079	.059	.224
Durable	.026	.051	.020	.086
Nondurable	.017	.028	.038	.138
Transportation, Communications & Utilities	.071	.092	.076	.073
Wholesale Trade	.024	.038	.189	.043
Retail Trade	.163	.168		.161
Finance, Insurance, & Real Estate	.061	.067	.060	.060
Services	.494	.422	.443	.286
Public Administration	.055	.050	.064	.053

Source: Calculated from data found in 1980 *Census of Population*, Volume 1, Chapter C, Part 1. Table 90, and from Chapter C, Part 30, Tables 61 and 122.

Consider the following terms:

e_i = SMSA employment in the i^{th} industry,

e = total SMSA employment,

E_i = state or national employment in the i^{th} industry,

E = total state or national employment.

The location quotient for the i^{th} industry is:

$$\frac{e_i/e}{E_i/E}$$

When the value of the coefficient is calculated using state data in the denominator, and is exactly unity for the i^{th} industry, the industry is present in the SMSA to the same extent as in the state. When it is above unity the i^{th} industry is relatively concentrated in the SMSA; when below, relatively scarce. Las Vegas surpasses the state share in the manufacture of durables, in finance, insurance, and real estate, and in service industries, and it is close to unity in construction and trade. Reno exceeds the state share in manufacturing as a whole, durable goods manufacturing, transportation, communications, and other public utility industries, trade and finance, insurance and real estate. The coefficient for services is not too far from unity. (See Table 7.)

A more interesting interpretation concerns the quotient related to national employment. Assuming uniformity of consumption patterns, SMSA residents will consume a per-capita volume and mix of goods and services identical to that of the nation as a whole. International trade notwithstanding, if we assume markets are in equilibrium, U.S. con-

Table 7

Location Quotients

Industry	SMSA Las Vegas to: NV	SMSA Las Vegas to: U.S.	SMSA Reno to: NV	SMSA Reno to: U.S.
Agriculture	.41	.23	.53	.30
Mining	.23	.30	.38	.50
Construction	.99	1.32	.87	1.17
Manufacturing	.72	.19	1.34	.35
Durable	1.30	.30	2.55	.59
Nondurable	.45	.12	.74	.20
Transportation, Communications & Utilities	.93	.97	1.21	1.26
Wholesale Trade	.99	.56	1.09	.88
Retail Trade		1.01		1.04
Finance, Insurance, & Real Estate	1.02	1.02	1.12	1.12
Services	1.11	1.73	.95	1.47
Public Administration	.86	1.04	.78	.94

Source: Calculated from figures in Table 5.

sumers are able to purchase this desired market basket of goods and services when Ei/E percent of the total U.S. labor force is devoted to production of output from industry i. Therefore, the SMSA demand for products is satisfied by local production when $e_i/e = E_i/E$, which results in a value of unity for the location quotient. It follows that when the coefficient is greater than unity the SMSA will be exporting, and that it will be importing when less than unity.

Let X_i = export employment in the i^{th} industry.

$\frac{E_i}{E}$ = percent of SMSA employment that would have to be devoted to production of the i^{th} good to supply local demand, and

$\frac{e_i}{e}$ = actual proportion of SMSA employment devoted to such production.

Then $X_i = (e_i/e - E_i/E)e$

This interpretation of the location quotient method allows us to estimate the size of the export employment sector without direct observations of goods flows. It is therefore, according to Tiebout, (Heilbrun, 1974, p. 144), a good instrument for measuring export-linked activity.

Given the preceding analysis, these industries are considered to have the following amounts of export employment in Las Vegas: construction (4272.5 persons), retail trade (449.7), finance, insurance, and real estate (224.9), services (46772.7), and public administration (449.7). The industries and comparable figures for Reno are: construction (1081.4), transportation, communications, and other public utilities (2054.7), retail trade (757.0), finance, insurance, and real estate (757.0), and service industries (14707.1).

How, for example, can the output from construction or services employment be exported? The answer is that physical products do not have to cross local or state boundaries for an "export" to occur. To illustrate, consider the traveler from California who journeys to Nevada and purchases food, lodging, and other services provided to tourists. In such a case, a portion of Nevada's GNP is being consumed by a nonresident, or in effect is being exported.

Similarly, although the structures erected by construction workers may be physically located within the state, some will exist partly to serve tourists. hotels and casinos are prime examples. These facilities embody "exported labor" in the sense that a portion of the demand for construction workers originates in the desire of out-of-state persons to visit Nevada. These interpretations afford an insight into two ways in which exports can be said to arise.

INCOME

Current dollar per-capita income is seen in Table 8 to have remained higher in Reno than in Las Vegas over the decade. It is also clear that the gap widened so that by 1979 income per capita in Reno was about 15% higher than in Las Vegas.

In Table 9 personal income figures by industry are presented for both Las Vegas and Reno in 1970 and 1980. This breakdown permits one to see which industries provide the greatest incomes and allows a comparison to Tables 5 and 6 which show the significance of the industries in providing employment.

Table 8

Per Capita Income, 1970 and 1980

	1970	1980	% Δ 1970-1980
SMSA Las Vegas	$3,546	$8,259	132.9%
SMSA Reno	3,898	9,491	143.5%

Source: Calculated from data found in 1970 *Census of Population,* Volume 1, Chapter B, Part 30, Table 89 and 1980 *Census of Population,* Volume 1, Chapter B, Part 30, Table 124.

Table 9

Personal Income by Broad Industrial Source, 1970 and 1980 (Thousands of Dollars)

	SMSA Las Vegas		SMSA Reno	
	1970	1980	1970	1980
Farm	2,260	4,664	1,568	4,944
Nonfarm	1,048,671	3,705,586	492,856	1,864,021
Private	851,696	3,133,854	411,057	1,597,998
Manufacturing	43,853	137,371	25,516	149,078
Mining	1,052	2,952	2,677	15,366
Construction	98,465	351,543	44,155	185,123
Trade	146,578	558,103	92,162	325,757
Finance, Insurance, & Real Estate	40,972	175,183	31,522	106,407
Transportation, Communications & Utilities	73,892	298,400	45,919	185,672
Services	445,272	1,601,839	168,222	621,669
Other	1,612	8,463	884	8,926
Government	196,975	571,732	81,799	266,023
Federal Civilian	42,288	98,653	19,285	57,405
Federal Military	61,684	129,898	2,835	2,694
State & Local	93,003	343,181	59,679	205,924

Source: Calculated from data found in U.S. Department of Commerce, Bureau of Economic Analysis, *Local Area Personal Income,* 1970-1975 and 1977-1982, Table 4.

The 1980 figures in Table 9 for private industry reveal that services, trade, and construction rank as the three greatest providers of personal income in Las Vegas; in Reno the rank ordering is services, trade, and transportation & utilities in a virtual tie with construction for third place. Furthermore, a comparison of Table 9 with Table 10 shows that in regard to income the largest industries are not necessarily the fastest growing.

Table 10 shows the percentage change in Personal Income from 1970 to 1980. Both the Reno and Las Vegas SMSAs showed increases of over 100% in all categories with the exception of proprietor's income which was up 86.6% in Las Vegas and 62.0% in Reno, and with the exception of Federal military income in Reno, which showed a decline of 5%.

When we examine the type of income received, we see the fastest growing component to be "Other Labor Income."

This consists almost entirely of employer contributions to private pension and welfare funds.

Consider also the figures by industry. For Las Vegas the highest percentage change is in the finance, insurance, and real estate category (327.6%), while in Reno it is in manufacuring (484.2%). Indeed, while both Las Vegas and Reno are service industry oriented economies, among the seven private industry sources in Table 10, the growth rate of income from services is ranked only fourth highest in Las Vegas and only fifth highest in Reno. Service industries are among those least effective in producing income growth!

Table 10

Change in Personal Income by Type and Broad Industrial Source

	SMSA Las Vegas % 1970-1980	SMSA Reno % 1970-1980
By Type:		
Wages and Salaries	256.4%	290.5%
Other Labor Income	445.6	537.3
Proprietor's Income	87.6	62.0
By Industry:		
Farm	106.4	215.3
Nonfarm	253.4	278.2
Private	267.9	288.7
Manufacturing	213.2	484.2
Mining	180.6	474.0
Construction	257.0	319.3
Trade	280.7	253.6
Finance, Insurance, & Real Estate	327.6	237.6
Transportation, Communications & Utilities	303.8	304.4
Services	259.7	269.5
Government	190.3	225.2
Federal Civilian	133.2	297.7
Federal Military	110.5	-5.0
State & Local	269.0	245.0

Source: Calculated from data found in *Local Area Personal Income,* 1970-1975 and 1977-1982, Table 4.

Table 11

Selected Sources of Personal Income, 1970 and 1980

	SMSA Las Vegas 1970	SMSA Las Vegas 1980	SMSA Reno 1970	SMSA Reno 1980
Proprietor's income as a percent of total labor and proprietor's income, place of work	5.5%	2.9%	9.2%	4.0%
Farm income as a percent of income, place of work	2.0	2.6	2.3	5.1
Dividends, interest, and rent as percent of personal income, place of residence	9.2	14.7	14.7	19.2
Transfer payment as a percent of personal income, place of residence	6.4	12.0	7.7	10.5

Source: Calculated from data found in *Local Area Personal Income,* 1970-1975 and 1977-1982, Table 4.

A disaggregation of personal income according to source is also revealing. Table 11 shows selected sources of personal income for the two SMSAs. As a proportion of total income, proprietor's income shows a downward trend in both SMSAs. Hence, we see a decreasing relative significance of proprietorships and partnerships in these economies. Secondly, unearned income in the form of dividends, interest, and rent is of growing significance in both places, generating almost one out of every five dollars of personal income received in Reno by 1980. Finally, transfer payments are defined as currently nonproductive income payments such as social security, welfare, unemployment compensation, agricultural support payments, and veterans' benefits. The trend in this component is upward. At the beginning of the decade this proportion was greater in Reno than in Las Vegas, but by the end of the period it had nearly doubled in Las Vegas so that the proportion in Las Vegas surpassed that in Reno.

CONCLUSIONS

Clearly, the 1970s were a period of rapid growth for urban Nevada. Just as distinctly, we see economies specialized toward the service industries. These facts are widely known. Other features seen in the data are not so widely known, and the two conclusions that follow from the statistics must still be regarded as somewhat tentative. The first is that we have profiled two economies where the seeds of diversification have been firmly planted. The degree to which these seeds will bear fruit in the future must remain a matter of speculation. That is, diversification may or may not follow the paths identified in this research. Nonetheless, the pattern that has emerged from the figures encompasses a full decade, a long enough period for trends to be well identified. The second conclusion is that these economies are diversifying in different directions. This would lead one to predict a greater degree of economic complementarity between the two economic structures in the future. If this occurs then each locale would be able to reciprocally provide a greater measure of the other's goods and services than is currently the case. For example, should Reno further develop and diversify toward manufacturing, then intrastate flows of manufactured goods would potentially displace such flows from out of state with positive implications for future job creation in Nevada.

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Compensating Balance Practices by Western Banks

*By Thomas A. Ulrich, Robert C. Posatko, and Stephen A. Mathis**

INTRODUCTION

A compensating balance requirement is an arrangement between commercial banks and business customers whereby a customer must hold a deposit balance to compensate the bank for granting a loan, establishing a line of credit, or performing certain services. While compensating balances have been an integral part of the American banking system since the early 1900s, their continued use has been challenged within the banking literature (Colquitt, 1968; Helweg, 1961; Maris, 1978; Nadler, 1968 and 1972; Tyng, 1967). Academics and banking consultants contend that the practice of requiring compensating balances is being abolished by today's well-trained, sophisticated bankers. Given this widely predicted decline in the usage of compensating balances, what is the current status of the compensating balance requirement among western commercial banks? This article provides the results of a survey of western commercial banks regarding their practices and perceptions of compensating balance requirements.

Questionnaire

The commercial lending officer at each of 108 western commercial banks located in Washington, Oregon, Idaho, Montana, Wyoming, Utah, Colorado, Nevada, New Mexico, Arizona, and California was sent a questionnaire regarding the bank's current compensating balance practices. The proportionate sample was based both on the amount of deposits and the number of banks in each state. A minimum of five banks was chosen for each state, and each state's largest bank was included. Care was taken to assure adequate representation from both rural and urban areas as well as from large, medium, and small banks. A total of fifty-one banks responded to the questionnaire on compensating balance practices for a response rate of 47.2 percent.

The first part of the questionnaire dealt with demographic information regarding bank size, geographic location, and whether the bank served urban or rural markets. The second part of the questionnaire focused on the bank's current compensating balance practices. First, the bankers were asked if they used compensating balances, and if not, why not? Next, to gain insight into the extent of compensating balance usage, the bankers were asked whether the importance of compensating balances to the bank increased or decreased during the five years prior to the survey and if they thought the importance of compensating balances in the future at their banks would increase or decrease. Questioning was then directed toward the compensating balance requirement. When and where was it used? Who determined whether a compensating balance would be required, and its size if required? What were the important factors in determining the size of the requirement? In closing out this section the bankers were asked to indicate their normal compensating balance requirement and what specific types of deposits were used by their customers in meeting the compensating balance requirement.

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RESULTS

A description of the responding banks based on size of deposits is provided in Table 1. Banks from an urban environment with a city population over 50,000 made up 72.5 percent of the respondents, and 27.5 percent were rural banks located in cities with population below 50,000.

Table 1

Responding Banks by Size of Deposits

Deposit Size ($ Million)	Number of Respondents	Percentage of Respondents
Greater than 500	23	45.1%
100 to 500	11	21.6%
Less than 100	17	33.3%
	51	100.0%

A total of 34 (66.7 percent) of the respondents indicated that their bank employs compensating balance requirements. When grouped according to amount of deposits, it was found that 100.0 percent of the respondent banks in the greater than $500 million range employ compensating balance requirements; 81.8 percent in the $100 to $500 million range; and 11.8 percent in the less than $100 million dollar category. Table 2 provides a comparison of the results of the current study with those of a national survey completed two decades earlier by Baxter and Shapiro (1964).

Table 2

Percentage Distribution of Banks Using Compensating Balances

Current Study		Baxter and Shapiro Study	
Bank Size ($ Million)	Percentage of Banks Using	Bank Size* ($ Million)	Percentage of Banks Using
Greater than 500	100.0%	Greater than 500	99%
		253 to 500	100%
		128 to 250	93%
100 to 500	81.8%		
	59.0% ≤ p ≤ 100.0%**	53 to 125	85%
Less than 100	11.8%		
	0.0% ≤ p ≤ 27.1%	Less than 50	42%

*Bank size was adjusted by GNP implicit price deflator.
**95 percent confidence intervals.

The bank-size categories used in the Baxter and Shapiro study were adjusted using the GNP implicit price deflator to permit comparison with the bank-size categories used in the current study.

To facilitate the comparison between the two studies, 95 percent confidence intervals were constructed for the current study results. For banks with deposits in excess of $100 million, the current percentage of banks using compensating balances is in line with the earlier national study. The percentage of banks below $100 million in deposits currently using compensating deposits is noticeably below that of their earlier counterparts.

These results do not completely tell us about the trend in compensating balance usage by western banks. To gain a different perspective of the current trend in compensating balance usage, the commercial lending officers from banks which indicated they used compensating balances were asked two questions. The first inquired whether the importance of compensating balance requirements at the loan officer's bank increased or decreased over the past five years. The second asked if the loan officer expected the use of compensating balance requirements by his bank would increase or decrease in the future. For both questions a five-point scale ranging from increase substantially to decrease substantially was employed. The results are provided in Table 3.

The response to these two questions gives us a view of increasing compensating balance usage on the part of these commercial banks. The results indicate that those banks which are employing compensating balances have increased the extent of their usage over the five years prior to the survey. In addition, they expect the use of compensating balances by their banks to increase in the future.

For the banks in this study, 70.6 percent of the loan officers whose banks use compensating balances said that the importance of compensating balances increased over the past five years, and 55.8 percent expected their banks' usage of compensating balances would increase in the future. These results suggest that the practice of requiring compensating balances by western commercial banks is not decreasing. It should be pointed out that when the survey was completed interest rates were historically high and a relatively tight monetary policy existed. Earlier research has shown that the use of compensating balances increases as monetary conditions tighten (Baxter and Shapiro, 1964).

Table 3

Past and Future Importance of Compensating Balance Requirements

	Frequency and Percentage of Respondents				
	Increased Substantially	Increased	Not Changed	Decreased	Decreased Substantially
Over the **past five years** the importance of compensating balance requirements in my bank's operations has:	12 (35.3%)	12 (35.3%)	5 (14.7%)	4 (11.8%)	1 (2.9%)
	Increase Substantially	**Increase**	**Remain Unchanged**	**Decrease**	**Decrease Substantially**
I would expect the use of compensating balance requirements by my bank **in the future** to:	6 (17.6%)	13 (38.2%)	7 (20.6%)	8 (23.5%)	0 (0.0%)

Among the responding banks 17 (33.3 percent) were nonusers of compensating balance requirements. By bank size, none of the banks in the greater than $500 million group were nonusers while 18.2 percent indicated nonuse in the $100 to $500 million group. By far the largest percentage of nonuse was among the small banks with deposits less than $100 million. In this category 88.2 percent indicated their banks were nonusers. In addition, the nonusers of compensating balances were primarily rural banks. A total of 70.6 percent of the nonuser banks were situated in cities with a population below 50,000, while only 29.4 percent were from cities with population in excess of 50,000.

Table 4

Reasons for Nonuse of Compensating Balances

Reason	Number of Respondents	Percentage of Respondents
Adjustment of interest rates presents a superior alternative	9	52.9%
Competitors do not use them	6	35.3%
They unduly complicate the loan contract	5	29.4%
Administrative costs are prohibitive	3	17.6%
Lack of customer acceptance	3	17.6%
Charging a fee is a superior alternative	3	17.6%
The financial reporting requirement by borrowers	3	17.6%

The reasons given by banks for not employing compensating balance requirements are summarized in Table 4. The major reason given is that the adjustment of interest rates presents a superior alternative to the use of compensating balance requirements; 52.9 percent of the nonuser banks so indicated. Additional reasons were that competitors do not use them (35.3 percent), that compensating balances unduly complicate the loan contract (29.4 percent), lack of customer acceptance (17.6 percent), prohibitive administrative costs (17.6 percent), charging a fee is a superior alternative (17.6 percent), and the requirement for financial reporting by borrowers (17.6 percent).

NATURE AND SIZE OF COMPENSATING BALANCE

In the overwhelming majority of cases, the compensating balance requirement is negotiated directly between the bank and the individual customer with a great deal of flexibility being left to the loan officer. Only 5.8 percent of the loan officers in the survey indicated that the required compensating balance was set in advance according to some category such as loan type or loan size. The remaining 94.3 percent indicated that the requirement was negotiated separately for each loan contract. This permits the loan officer to consider the special circumstances of the customer.

In order to determine the importance of the compensating balance requirement in different situations the loan officers were asked to rank several situations on their importance by means of a five point scale ranging from very important (1) to unimportant (5). These results are presented in Table 5. They indicate that compensating balance requirements are most important in negotiating lines of credit with 91.2 percent of the respondents assigning one of the top two levels of importance to this situation. For direct loan negotiation, 69.7 percent of the loan officers assigned one of the top two levels of importance. But the importance of the compensating balance is much broader than the credit decision. A total of 48.5 percent of the loan officers assigned one of the top two importance levels to the negotiation of payment for bank services other than credit.

Table 5

Importance of Compensating Balances

Situation	Frequency and Percentage of Respondents				
	Very Important (1)	(2)	Moderately Important (3)	(4)	Unimportant (5)
Line of credit negotiation	22 (64.7%)	9 (26.5%)	2 (5.9%)	0 (0.0%)	1 (2.9%)
Direct loan negotiation	13 (39.4%)	10 (30.3%)	9 (27.3%)	1 (3.0%)	0 (0.0%)
Negotiation of payment for bank services other than credit	3 (9.1%)	13 (39.4%)	9 (27.3%)	4 (12.1%)	4 (12.1%)

What factors are important to the commercial loan officer in determining the size (percentage) of the compensating balance requirement? The loan officers were asked to rate the importance of five factors in determining the size of the compensating balance requirement using a five-point importance scale ranging from very important (1) to unimportant (5). The results of this portion of the survey are presented in Table 6, with the five factors ranked in order of importance.

Each of the five factors carried considerable importance with the loan officers in determining the size of a compensating balance requirement. Factors concerned with the bank obtaining adequate compensation for the commitment and services that it provides the customer were ranked quite high. Borrower's frequency and extent of need for bank

Table 6

Factors Affecting Size of Compensating Balance Requirements

Factor	Mean Response	Frequency and Percentage of Respondents				
		Very Important		Moderately Important		Unimportant
		(1)	(2)	(3)	(4)	(5)
Borrower's frequency and extent of need for bank credit	2.13	7 (21.9%)	18 (53.1%)	6 18.8%	1 (3.1%)	1 (3.1%)
Activity in borrower's account	2.15	9 (27.3%)	14 (42.4%)	8 (24.2%)	0 (0.0%)	2 (6.1%)
Bank's supply of loanable funds	2.21	13 (39.4%)	7 (21.2%)	9 (27.3%)	1 (3.0%)	3 (9.1%)
Size of borrower's working balances	2.23	6 (19.4%)	15 (48.4%)	8 (25.8%)	1 (3.2%)	1 (3.2%)
Willingness of borrower to substitute a fee for compensating balances	2.79	6 (18.2%)	9 (27.3%)	8 (24.2%)	6 (18.2%)	4 (12.1%)

credit received the highest ranking with a total of 75.0 percent of the loan officers assigning this factor to one of the top two importance levels. In addition, activity in the borrower's account was ranked second, with 69.7 percent of the bankers rating it in the top two categories of importance. Both of these factors are concerned with adequate bank compensation. The bank's supply of lendable funds was ranked third with 60.6 percent of the loan officers assigning it to one of the two top levels. The size of a borrower's working balances also received substantial support with 67.8 percent. The last factor, the willingness of borrowers to substitute a fee for compensating balances received moderate support with 45.5 percent of the loan officers rating it in the two top categories of importance.

As four out of the five factors had at least 60 percent of the loan officers rating it in one of the top two importance categories, we can conclude that determining the size of a compensating balance is highly dependent on a given situation. Clearly, the compensating balance remains a very important tool of the commercial lending officer in negotiating with a customer. Moreover, the complexity and uniqueness of each compensating balance requirement make it difficult to arrive at sweeping generalizations regarding their use and effectiveness.

The loan officers were next asked about the normal size of their compensating balance requirement. As indicated in Table 7 the most prevalent size cited for a compensating balance under a line of credit arrangement was 10 percent of the unused line and 10 percent of the line in use. With regard to the unused portion of the line, 88.0 percent of the loan officers indicated their normal requirement was between 5 and 10 percent with 76.0 percent specifying 10 percent. For the used portion of the line, 85.2 percent of the loan officers normally used between 10 and 20 percent with 63.0 percent specifying 10 percent and 7.4 percent specifying 20 percent.

Table 7

Normal Size of Compensating Balance Requirements

	Frequency and Percentage of Respondents					
	Line of Credit Arrangement				Straight	
Size	Unused line		Line in use		Borrowing	
5%	1	(4.0%)	2	(7.4%)	0	(0.0%)
5-10%	2	(8.0%)	2	(7.4%)	1	(3.7%)
10%	9	(76.0%)	17	(63.0%)	12	(44.4%)
10-15%	0	(0.0%)	0	(0.0%)	3	(11.1%)
15%	1	(4.0%)	1	(3.7%)	4	(14.8%)
10-20%	1	(4.0%)	3	(11.1%)	3	(11.1%)
20%	1	(4.0%)	2	(7.4%)	4	(14.8%)

A balance requirement between 10 and 20 percent was most popular for straight borrowing, with 96.2 percent of the bankers falling into that grouping. More specifically, 44.4 percent indicated they normally used 10 percent, 14.8 percent indicated 15 percent, and 14.8 percent indicated 20 percent. Straight borrowing normally requires a higher compensating balance than borrowing under a line of credit since the latter is augmented by the balance requirement on the unused line.

Once the size of the balance is set the means of fulfilling the requirement must be determined. Demand deposits were the most popular option used to fulfill the requirement with 91.2 percent of the loan officers indicating the use of that option. A fee-compensating balance combination was used in 61.8 percent of the banks, and 61.8 percent indicated they used zero or low interest time deposits to fulfill the requirement. The latter has the advantage of lowering the reserve requirement on the deposit and thus improving the profitability of the relationship for the bank (Carey, 1967). Only 2.9 percent of the loan officers indicated they used some sort of link financing where a third party places a time deposit to satisfy the bank's compensating balance requirement (Fieldhouse, 1964).

SUMMARY AND CONCLUSIONS

Despite predictions of a decline in the use of compensating balances, the results of this survey clearly indicate that compensating balances are holding their own among western banks. For banks with deposits above $100 million the percentage employing compensating balances in this survey is in line with that of an earlier national survey. However, banks with deposits below $100 million showed a noticeable decline in the use of compensating balances. At the same time, a majority of the responding commercial loan officers reported that the importance of compensating balance requirements at their banks increased over the five years prior to the survey and that they expected their usage of compensating balances would increase in the future.

The observed percentage decline among small banks using compensating balances may be explained by the ineffectiveness of compensating balances as a means of increasing lendable funds for these smaller banks. As a group these banks are more retail oriented, and thus a large percentage of their deposits come from individuals. In addition, loan-size constraints based on bank capital limit these banks to smaller business whose liquidity is less than large business and are less likely to have sizeable working balances (Walker, 1978). Both conditions render compensating balances ineffective in increasing lendable funds, a leading reason for the imposition of compensating balance requirements.

The survey showed that the loan officer is given considerable latitude in determining not only whether to require a compensating balance in a given situation, but also in deciding its size. This latitude on the part of the loan officer allows him to consider the individual circumstances of the customer and renders each compensating balance requirement unique. Nevertheless, the results of the survey permit some generalization concerning compensating balance requirements. First, compensating balances appear to be most important when establishing a line of credit. Second, loan officers consider the size of a borrower's working balances to be a key factor in setting the size of a compensating balance requirement. Third, a borrower's frequency and ex-

tent of need for bank credit along with account activity are also important factors in arriving at the appropriate size for a compensating balance. Fourth, loan officers are increasing their sophistication in the use of compensating balances and give a good deal of consideration to the individual conditions and unique circumstances of the borrower when making the compensating balance decision. Consequently, it appears that the continued viability of the compensating balance is the result of the loan officer's ability to make the compensating balance arrangement beneficial from the customer's point-of-view as well as the bank's. As long as this continues, the practice of requiring compensating balances will endure.

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Nevada Economic Indicators
Statewide Statistical Data

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985
Total Labor Force (000's)	510.9†	508.8†	505.7	508.5	+ .9	+ 1.6
Total Employment (000's)	468.7†	469.4†	467.6	468.6	+ .8	+ 1.6
Unemployment (000's)	42.1†	39.3†	38.0	39.8	+ .4	+ 6.0
Unemployment Rate	8.2†	7.7†	7.5	7.8	– .8	+ 4.0
Unemployment Rate (Seasonally Adjusted)	8.5†	8.2†	8.3	8.3	+ 3.3	+ 3.7
Agricultural Empl. (000's)	6.8†	7.2†	5.9	6.6	+ 18.5	+ .5
Establishment Based Industrial Employment						
Total All Industries (000's)	449.1†	448.6†	451.7	449.8	+ .6	+ 3.7
Mining	7.0†	7.0†	6.9	7.0	+ 1.0	+ 1.0
Contract Construction	26.0†	26.2†	25.9	26.0	+ 3.0	+ 10.9
Manufacturing	21.7†	21.6†	21.4	21.6	+ .5	+ .5
Transportation & Utilities						
Transportation	14.0†	14.0†	14.1	14.0	+ 1.4	+ 3.7
Railroads	1.4†	1.4†	1.4	1.4	+ 0.0	+ 0.0
Air	2.7†	2.7†	2.8	2.7	+ 1.2	– 7.9
Public Utilities	11.5†	11.5†	11.6	11.5	+ .3	– 0.6
Total Trade	90.5†	90.4†	90.3	90.4	+ 1.0	+ 3.2
Wholesale Trade	15.4†	15.5†	15.5	15.5	+ 1.5	+ 2.4
Retail Trade	78.1†	74.9†	74.8	75.9	+ 2.2	+ 4.8
Finance, Ins., Real Estate	21.1†	21.3†	21.3	21.2	+ 1.1	+ 4.1
Service Industries	200.1†	199.4†	199.0	199.5	+ 1.3	+ 4.1
Hotels, Amusement and Recreation Combined	129.2†	128.7†	128.4	128.8	+ 1.6	+ 4.4
Medical and Health	16.2†	16.2†	16.2	16.2	– 0.8	+ 1.0
Total Government	57.2†	57.2†	61.2	58.5	– 3.8	+ 2.6
Federal	10.7†	10.6†	10.6	10.6	+ 3.6	+ 3.2
State and Local	46.5†	46.6†	50.6	47.9	– 5.3	+ 2.4
Education	17.2†	17.2†	21.9	18.8	– 14.7	+ 1.3
Average Weekly Earnings in Selected Industries						
Mining	580.22†	546.98†	564.92	564.04	– 2.1	+ 2.2
Construction	588.04†	595.70†	598.59	594.11	+ 2.0	– 1.9
Manufacturing	373.98†	375.77†	364.29	371.35	+ .1	+ 3.3
Public Utilities	536.84†	528.21†	536.83	533.96	+ .9	+ 3.3
Trade	290.50†	294.14†	294.81	293.15	+ 1.8	+ 5.5
Average Weekly Hours in Selected Industries						
Mining	43.3†	42.9†	42.7	43.0	+ 0.0	+ .1
Construction	35.9†	37.0†	37.6	36.8	+ 1.0	+ 2.4
Manufacturing	40.3†	40.8†	39.9	40.3	– .9	+ 3.1
Public Utilities	41.2†	40.6†	40.7	40.8	+ 0.0	– .4
Trade	35.0†	35.1†	34.4	34.8	+ 1.4	+ 1.5
Average Hourly Earnings in Selected Industries						
Mining	13.40†	12.75†	13.23	13.13	– 2.2	+ 2.1
Construction	16.38†	16.10†	15.92	16.13	+ 1.0	– 4.2
Manufacturing	9.28†	9.21†	9.13	9.21	+ 1.0	+ .2
Public Utilities	13.03†	13.01†	13.19	13.08	+ .9	+ 3.7
Trade	8.30†	8.38†	8.57	8.42	+ .5	+ 4.0

Statewide Statistical Data (Continued)

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985
Construction Activity						
Residential ($000's)	67,600	52,900	69,600	190,100	– 22.7	+ 1.8
Nonresidential ($000's)	40,100	17,300	55,100	112,500	+ 27.1	+ 104.2
Nonbuilding ($000's)	17,100	7,300	31,800	56,200	– 36.7	– 17.6
Total ($000's)	124,800	77,500	156,500	358,800	– 15.2	+ 15.7
# of New Dwelling Units	1,513	927	1,107	3,547	+ 24.9	+ 33.5
Tax Collections ($)						
Liquor	1,083,103	1,288,728	1,441,593	3,813,424	+ 11.1	+ 19.9
Cigarette	1,617,195	1,776,407	1,701,574	5,095,176	+ 1.6	+ 1.0
Fuel	3,909,548	4,573,152	4,715,179	13,197,879	+ 16.9	+ 7.7
Quarterly Taxable Sales ($000's)	–	–	–	2,131,492	– 2.9	+ 9.0
Quarterly Gaming Revenues ($000's)	–	–	–	889,776	+ 5.2	+ 7.3
Highway Traffic Flow						
17 Selected Stations (Avg. Daily)	145,118	148,891	131,172	141,727	+ 12.9	+ 9.2

† Revised.

Las Vegas Standard Metropolitan Statistical Area

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985
Total Labor Force (000's)	285.4†	283.8†	283.8	284.3	+ .5	+ 2.0
Total Employment (000's)	259.4†	259.0†	259.1	259.2	+ .2	+ 2.4
Unemployment (000's)	26.0†	24.8†	24.2	25.0	+ 3.9	+ 2.2
Unemployment Rate	9.1†	8.7†	8.5	8.8	+ 3.1	– .4
Unemployment Rate (Seasonally Adjusted)	9.2†	8.9†	9.0	9.0	+ 3.4	– .7
Agricultural Employment (000's)	1.2†	1.3†	1.0	1.2	+ 20.7	+ 0.0
Establishment Based Industrial Employment						
Total All Industries (000's)	251.0†	250.2†	252.6	251.3	– .1	+ 4.3
Mining	.4†	.3†	.3	.3	– 16.7	– 16.7
Contract Construction	15.5†	15.6†	15.4	15.5	+ 1.8	+ 11.5
Manufacturing	7.7†	7.6†	7.7	7.7	+ .4	+ 1.3
Transportation & Utilities						
Transportation	8.3†	8.4†	8.5	8.4	+ 2.0	+ 4.6
Railroads	.5†	.5†	.5	.5	+ 0.0	+ 0.0
Air	2.0†	2.1†	2.1	2.1	– 1.6	– 11.4
Public Utilities	6.0†	6.0†	6.1	6.0	+ .6	– 1.1
Total Trade	51.7†	51.4†	51.4	51.5	+ .1	+ 3.6
Wholesale Trade	7.9†	7.8†	7.8	7.8	+ .9	+ 2.2
Retail Trade	43.8†	43.6†	43.6	43.7	+ 0.0	+ 3.9
Finance, Ins., Real Estate	12.5†	12.6†	12.6	12.6	+ 2.2	+ 6.8
Service Industries	121.5†	120.8†	121.0	121.1	+ .1	+ 3.9
Hotels, Gaming & Recreation	77.5†	77.1†	77.2	77.3	+ .0	+ 4.4
Total Government	27.4†	27.5†	29.6	28.2	– 3.9	+ 11.0
Federal	5.6†	5.6†	5.7	5.6	+ 4.3	+ 6.3
State and Local	21.8†	21.9†	23.9	22.5	– 5.8	+ 4.3
Education	8.6†	8.5†	10.9	9.3	– 15.9	+ 3.7
Construction Activity Las Vegas						
Residential ($000's)	11,394	6,847	9,252	27,493	– 31.3	+ 22.2
Nonresidential ($000's)	3,177	6,111	5,462	14,750	– 62.0	– 21.0
Total Value ($000's)	14,571	12,958	14,714	42,243	– 46.4	+ 2.6
# of New Family Units	296	152	188	636	– 48.7	– 12.9
North Las Vegas						
Residential ($000's)	2,257	88	693	3,038	– –	+ 292.0
Nonresidential ($000's)	1,391	198	942	2,531	– –	– 51.2
Total Value ($000's)	3,648	286	1,635	5,569	– –	– 6.6
# of Permits	51	51	45	147	– –	+ 28.9
Energy Consumption						
Sales (000's KWH)	–	–	–	[illegible]	– 100.0	– 100.0
# of Customers	–	–	–	0	– 100.0	– 100.0
Taxable Sales ($000's)	–	–	–	1,117,662	– 6.0	+ 11.6
Gaming Revenues ($000's)	–	–	–	557,432	– .9	+ 8.8
Air Transportation-McCarran						
Passengers (Arr. & Depart.)	897,935	951,782	847,360	2,697,077	– .5	+ 4.0
Cargo Enplaned (lbs.)	1,027,192	1,136,607	885,397	3,049,196	– 23.4	– 25.4
Cargo Deplaned (lbs.)	1,693,879	1,836,577	1,551,067	5,081,523	– 13.4	– 20.9
Highway Traffic Flow						
4 Selected Stations (Avg. Daily)	38,741	40,743	34,488	37,990	+ 6.6	+ 5.0
Room Tax ($)						
Clark County	–	–	–	0	– 100.0	– 100.0
Las Vegas City	–	–	–	0	– 100.0	– 100.0
SMSA Total	–	–	–	0	– 100.0	– 100.0

†Revised.

Reno Standard Metropolitan Statistical Area

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985
Total Labor Force (000's)	138.4†	137.7†	137.2	137.8	+ .9	+ 1.4
Total Employment (000's)	129.5†	129.8†	129.6	129.6	+ 1.2	+ .6
Unemployment (000's)	8.9†	7.9†	7.6	8.1	– 3.2	+ 16.2
Unemployment Rate	6.5†	5.8†	5.5	5.9	– 3.3	+ 14.8
Unemployment Rate (Seasonally Adjusted)	7.0†	6.5†	6.4	6.6	+ 5.9	+ 15.0
Agricultural Employment (000's)	.8†	.8†	.7	.8	+ 21.1	+ 0.0
Establishment Based Industrial Employment						
Total All Industries (000's)	124.1†	124.1†	125.3	124.5	+ .7	+ 2.7
Mining	.8†	.8†	.8	.8	+ 0.0	+ 0.0
Contract Construction	6.6†	6.6†	6.6	6.6	+ 3.7	+ 53.5
Manufacturing	8.3†	8.2†	8.1	8.2	– .8	– .8
Transportation & Utilities						
Transportation	4.1†	4.1†	4.1	4.1	+ .8	+ 4.2
Railroads	.4†	.4†	.4	.4	+ 0.0	+ 0.0
Public Utilities	4.1†	4.1†	4.1	4.1	+ 0.0	+ .8
Total Trade	26.6†	26.7†	26.8	26.7	+ 1.4	+ 1.9
Wholesale Trade	6.3†	6.4†	6.4	6.4	+ 2.7	+ 3.2
Retail Trade	20.3†	20.3†	20.4	20.3	+ 1.0	+ 1.5
Finance, Ins., Real Estate	6.7†	6.7†	6.8	6.7	+ 0.0	+ .5
Service Industries	51.3†	51.3†	51.3	51.3	+ 2.3	+ 4.3
Hotels, Gaming & Recreation	32.3†	32.3†	32.3	32.3	+ 2.9	+ 4.5
Total Government	15.6†	15.6†	16.7	16.0	– 4.8	– .2
Federal	2.8†	2.8†	2.7	2.8	– 1.2	– 1.2
State and Local	12.8†	12.8†	14.0	13.2	– 5.5	+ 0.0
Education	5.5†	5.5†	6.8	5.9	– 14.0	– 2.2
Construction Activity						
Reno						
Residential ($000's)	23,335	7,140	5,977	36,452	+ 54.9	+ 96.6
Nonresidential ($000's)	1,622	11,437	3,765	16,824	+ 258.5	– 50.8
Total Value ($000's)	27,937	20,018	11,986	59,941	+ 112.3	+ 13.6
# of New Family Units	721	88	117	926	+ 49.1	+ 178.9
Sparks						
Residential ($000's)	2,219	2,740	1,511	6,470	– 21.5	+ 91.0
Nonresidential ($000's)	1,577	473	2,091	4,141	– 48.0	+ 41.0
Total Value ($000's)	3,796	3,213	3,602	10,611	– 34.5	+ 67.8
# of New Family Units	76	55	61	192	– 29.9	+ 166.7
Washoe County (Unincorporated)						
Residential ($000's)	5,840	5,048	3,734	14,622	– 6.4	+ 28.6
Nonresidential ($000's)	1,922	1,363	1,842	5,127	– 30.4	– 36.4
Total Value ($000's)	7,762	6,411	5,576	19,749	– 14.1	+ 1.7
# of New Family Units	63	50	40	153	– 12.1	+ 5.5
Taxable Sales ($000's)	–	–	–	538,618	+ 4.1	+ 7.6
Gaming Revenues ($000's)	–	–	–	193,482	+ 12.9	+ 6.0
Air Transportation-Reno						
Passengers (Arr. & Depart.)	246,190	275,528	252,583	774,301	+ 12.2	+ 10.0
Cargo Enplaned (lbs.)	499,863	518,611	519,457	1,537,931	– 14.9	+ .1
Cargo Deplaned (lbs.)	603,836	667,447	759,814	2,031,097	+ 16.8	+ 12.4
Highway Traffic Flow						
7 Selected Stations (Avg. Daily)	86,699	90,192	79,252	85,381	+ 15.6	+ 14.5
Room Tax ($)						
Washoe County	80,064	103,723	132,957	316,744	+ 81.6	+ 50.8
Reno	842,779	894,004	963,684	2,700,467	+ 20.4	+ 1.9
Sparks	96,787	96,394	105,616	298,797	+ 14.8	+ 62.5
SMSA Total	1,019,630	1,094,121	1,202,257	3,316,008	+ 23.8	+ 5.6

† Revised.

Nevada Statistical Data by County

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	3rd Quarter-1984 3rd Quarter-1985
CARSON CITY						
Total Labor Force	21,230†	21,290†	20,910	21,143	+ .1	+ 1.1
Total Employment	19,430†	19,520†	19,440	19,463	+ 1.1	+ .5
Unemployment	1,800†	1,770†	1,470	1,680	– 10.2	+ 8.2
Unemployment Rate	8.5†	8.3†	7.0	7.9	– 10.2	+ 6.7
Construction Activity						
Residential Value ($000's)	2,213	3,169	2,174	7,556	+ 98.2	+ 32.4
Nonresidential Value ($000's)	656	641	3,680	4,977	+ 84.6	+ 27.5
Total Value ($000's)	2,869	3,810	5,854	12,533	+ 92.5	+ 30.4
# of New Family Units	24	14	30	68	+ 83.8	– 5.6
Taxable Sales ($000's)	–	–	–	74,355	+ 6.1	+ 9.6
Gaming Revenues ($000's)	–	–	–	12,009	+ 14.7	– .6
CHURCHILL						
Total Labor Force	7,030†	7,040†	6,730	6,933	+ 2.2	+ 1.7
Total Employment	6,310†	6,420†	6,160	6,296	+ 3.5	+ .6
Unemployment	720†	620†	570	636	– 9.0	+ 3.8
Unemployment Rate	10.3†	8.8 †	8.4	9.2	– 11.6	+ 1.9
Construction Activity						
Residential Value ($000's)	572	294	64	930	– 19.3	– 3.9
Nonresidential Value ($000's)	0	179	54	233	– 55.1	+ 56.4
Total Value ($000's)	–	–	–	0	– 100.0	– 100.0
# of New Family Units	7	4	1	12	– 20.0	+ 9.1
Taxable Sales ($000's)	–	–	–	22,787	+ 4.7	+ 16.6
Gaming Revenues ($000's)	–	–	–	0	– 100.0	– 100.0
DOUGLAS						
Total Labor Force	9,980†	19,020†	9,810	9,936	+ 3.4	– 1.5
Total Employment	9,300†	9,390†	9,140	9,276	+ 4.6	– 2.3
Unemployment	680†	630†	670	660	– 11.2	+ 10.6
Unemployment Rate	6.8†	6.3†	6.8	6.6	– 14.2	+ 12.4
Taxable Sales ($000's)	–	–	–	65,311	+ 17.1	– 3.8
Gaming Revenues ($000's)	–	–	–	95,117	+ 30.4	+ 3.2
ELKO						
Total Labor Force	14,650†	14,840†	14,380	14,623	+ 4.5	+ 1.6
Total Employment	13,730†	13,990†	13,630	13,783	+ 5.5	+ .3
Unemployment	920†	850†	750	840	– 10.0	+ 27.9
Unemployment Rate	6.2†	5.7†	5.2	5.7	– 14.9	+ 24.8
Construction Activity						
Elko City						
Residential ($000's)	1,409	1,814	1,395	4,618	+ 404.1	+ 140.6
Nonresidential ($000's)	173	52	185	410	– 72.3	– 75.2
Total Value ($000's)	1,582	1,866	1,580	5,028	+ 110.7	+ 40.7
# of New Dwelling Units	38	62	51	151	+ 1158.3	+ 403.3
Taxable Sales ($000's)	–	–	–	55,374	+ 10.7	+ 2.6
Gaming Revenues ($000's)	–	–	–	21,764	+ 10.2	+ 5.3
ESMERALDA						
Total Labor Force	420†	420†	420	420	+ .8	– 10.6
Total Employment	370†	380†	370	373	+ .9	– 11.1
Unemployment	50†	40†	50	46	+ 0.0	– 6.7
Unemployment Rate	11.6†	10.3†	11.5	11.1	+ 1.5	+ 2.1
Taxable Sales ($000's)	–	–	–	1,449	– 50.8	– 50.8
EUREKA						
Total Labor Force	930†	950†	870	916	+ 6.6	+ .7
Total Employment	860†	880†	810	850	+ 7.6	– 1.9
Unemployment	70†	70†	60	66	– 4.8	+ 53.8
Unemployment Rate	7.2†	6.9†	6.8	7.0	– 12.2	+ 41.2
Taxable Sales	–	–	–	4,669	– 15.3	– 10.1

Nevada Statistical Data by County (Continued)

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	3rd Quarter-1984 3rd Quarter-1985
HUMBOLDT						
Total Labor Force	6,350†	6,330†	6,110	6,263	+ 3.8	+ 1.6
Total Employment	5,890†	5,930†	5,700	5,840	+ 4.5	+ 1.9
Unemployment	460†	400†	410	423	– 4.5	– 2.3
Unemployment Rate	7.2†	6.3†	6.7	6.7	– 8.2	– 3.8
Taxable Sales ($000's)	–	–	–	31,960	– 39.7	+ 38.1
Gaming Revenues ($000's)	–	–	–	2,717	+ 24.4	– 1.7
LANDER						
Total Labor Force	2,480†	2,490†	2,440	2,470	+ 5.6	+ 9.8
Total Employment	2,290†	2,320†	2,270	2,293	+ 4.7	+ 9.2
Unemployment	190†	170†	170	176	+ 17.8	+ 17.8
Unemployment Rate	7.7†	6.9†	6.9	7.2	+ 12.0	+ 8.0
Taxable Sales ($000's)	–	–	–	9,167	+ 7.4	– 30.4
LINCOLN						
Total Labor Force	2,830†	2,860†	2,830	2,840	+ 2.5	– 2.3
Total Employment	2,690†	2,720†	2,670	2,693	+ 2.8	– 2.3
Unemployment	140†	140†	160	146	– 2.2	– 2.2
Unemployment Rate	5.0†	4.9†	5.6	5.2	– 4.9	+ .6
Taxable Sales ($000's)	–	–	–	1,865	– 26.3	– 2.7
LYON						
Total Labor Force	6,380†	6,390†	6,220	6,330	+ 2.4	+ 4.3
Total Employment	5,670†	5,750†	5,570	5,663	+ 3.5	+ 1.6
Unemployment	710†	640†	650	666	– 5.7	+ 34.2
Unemployment Rate	11.2†	10.1†	10.4	10.6	– 7.3	+ 29.4
Taxable Sales ($100's)	–	–	–	15,731	– 1.8	+ 17.5
MINERAL						
Total Labor Force	3,690†	3,650†	3,630	3,656	– .5	– .5
Total Employment	3,390†	3,400†	3,380	3,390	– .3	– 1.3
Unemployment	300†	250†	250	266	– 2.4	+ 11.1
Unemployment Rate	8.1†	6.9†	6.9	7.3	– 1.8	+ 13.5
Taxable Sales ($000's)	–	–	–	6,810	– 4.2	– 23.4
NYE						
Total Labor Force	3,810†	3,740†	3,890	3,813	+ .8	+ 1.6
Total Employment	3,370†	3,360†	3,530	3,423	– .8	– 1.7
Unemployment	440†	380†	360	393	+ 16.8	+ 43.9
Unemployment Rate	11.5†	10.1†	9.1	10.2	+ 15.0	+ 40.8
Taxable Sales ($000's)	–	–	–	17,472	– 11.4	– 11.9
Gaming Revenues ($000's)	–	–	–	1,552	+ 16.4	+ 24.3
PERSHING						
Total Labor Force	1,780†	1,810†	1,750	1,780	+ 5.3	+ 10.8
Total Employment	1,700†	1,730†	1,640	1,690	+ 5.0	+ 9.5
Unemployment	80†	80†	110	90	+ 12.5	+ 42.1
Unemployment Rate	4.3†	4.4†	6.3	5.0	+ 4.2	+ 29.3
Taxable Sales ($000's)	–	–	–	4,424	– 8.3	+ 4.8

† Revised.

Nevada Statistical Data by County (Continued)

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985	PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985
STOREY						
Total Labor Force	1,520†	1,510†	1,440	1,490	+ 5.9	– 3.7
Total Employment	1,400†	1,420†	1,360	1,393	+ 6.6	+ 2.0
Unemployment	120†	90†	80	96	– 3.3	– 46.3
Unemployment Rate	7.9†	5.7†	5.5	6.4	– 11.2	– 45.0
Taxable Sales ($000's)	–	–	–	3,539	+ 31.0	+ 3.8
Gaming Revenues ($000's)	–	–	–	938	+ 46.6	+ 2.5
WHITE PINE						
Total Labor Force	3,900†	3,980†	3,760	3,880	+ .8	– 2.4
Total Employment	3,430†	3,530†	3,380	3,446	+ 5.2	+ .4
Unemployment	470†	450†	380	433	– 24.4	– 20.2
Unemployment Rate	12.1†	11.3†	10.1	11.2	– 25.1	– 17.9
Construction Activity						
Total Value ($000's)	–	–	–	0	–	–
# of Permits	–	–	–	0	–	–
Taxable Sales ($000's)	–	–	–	14,045	+ 27.9	+ 18.6
Gaming Revenues ($000's)	–	–	–	643	+ 25.8	+ 11.2

† Revised.

Selected U.S. Economic Indicators

Consumer Price Index & Indexes of Selected Categories
All Urban Consumers
(1967 = 100%)

	July 1985	August 1985	September 1985	3rd Quarter 1985	PERCENT CHANGE 2nd Quarter-1985 3rd Quarter-1985		PERCENT CHANGE 3rd Quarter-1984 3rd Quarter-1985	
All Items	322.8	323.5	324.5	323.6	+	.7	+	3.4
Food	309.5	309.7	309.9	309.7	+	1.9	+	1.9
Housing	383.2	352.9	353.8	363.3	+	4.3	+	7.0
Apparel and Upkeep	202.8	205.3	209.6	205.9	+	.3	+	2.8
Transportation	321.8	320.7	319.7	320.7	–	.1	+	2.4
Medical Care	404.0	406.6	408.3	406.3	+	1.6	+	6.4

Producer Price Indexes for Selected Commodity Groupings
(1967 = 100%)

All Commodities	309.0	307.2	305.8	307.3	–	.7	–	1.1
Fuel and Power	634.5	628.2	631.2	631.3	–	1.7	–	4.5
Machinery and Equipment	299.1	299.4	299.9	299.5	+	.2	+	1.8
Metals and Metal Products	314.6	314.9	314.5	314.7	–	.5	–	.3
Nonmetallic Mineral Products	348.7	349.7	349.8	349.4	+	.7	+	2.8
Textile Products & Apparel	210.2	210.3	210.6	210.4	–	.0	–	.1

U.S. Labor Force

Civilian Labor Force (000's)	117,536	116,679	115,850	116,688	+	1.2	+	2.6
Total Employment (000's)	108,854	108,628	107,867	108,449	+	1.4	+	3.1
Unemployment (000's)	8,682	8,051	7,984	8,239	–	.8	–	3.2
Unemployment Rate	7.4	6.9	6.9	7.1	–	1.9	–	5.4
Unemployment Rate (Seasonally Adjusted)	7.3	7.1	7.1	7.2	–	1.8	–	4.0

DATA SOURCES

Information for statistical tables were developed in cooperation with the following sources:

Bell Telephone Company of Nevada; California Pacific Utilities Co.; Central Telephone Co.; Churchill County Telephone & Telegraph System; Continental Telephone Co.; F.W. Dodge Co.; Elko City Engineer; City of Fallon; Federal Reserve Bank of San Francisco; First American Title Co. of Nevada (Reno); Lake Mead National Recreation Area; Las Vegas Convention Authority; Las Vegas Dept. of Building & Safety; Lincoln County Telephone System; McCarran International Airport; Moapa Valley Telephone Co.; Mt. Wheeler Power Co.; Nevada Dept. of Highways; Nevada Department of Taxation - Cigarette, Liquor, Fuel, and Sales and Use Tax Divisions; Nevada Employment Security Dept.; Nevada Gaming Commission; Nevada Power Co. - Las Vegas and Elko Divisions; Nevada Telephone & Telegraph Co.; North Las Vegas Building Dept.; Reno Building Inspection Dept.; Reno International Airport; Reno-Sparks Convention Authority; Rio Virgin Telephone Co.; Sierra Pacific Power Co.; Sparks Building Dept.; U.S. Dept. of Agriculture - Statistical Reporting Service; U.S. Dept. of Commerce-Bureau of Economic Analysis; Dept. of Labor-Bureau of Labor Statistics; White Pine County Regional Planning Commission.

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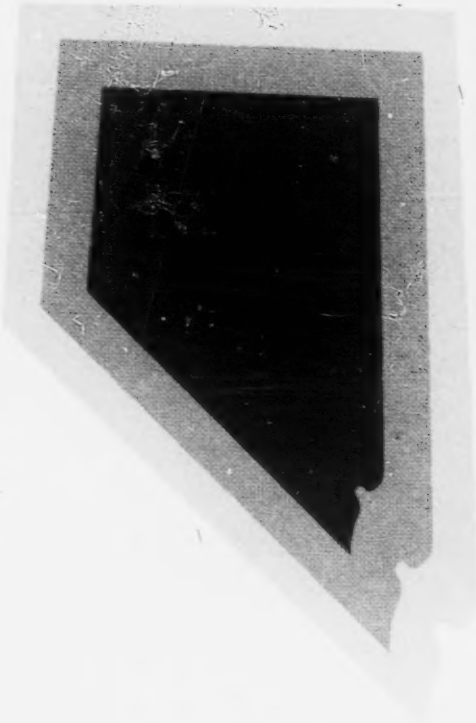

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General Editorial Policy

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The Western Regional Economy in 1985

*by Carolyn Sherwood-Call**

The diverse economy of the western region experienced a slowdown in overall growth in 1985. The unevenness in economic performance across sectors that slowed growth nationally also hurt the nine states that comprise the Twelfth Federal Reserve District (Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington). In addition, a number of industries in the West struggled to adjust to an environment of lower inflation and declining real asset prices.

Because of differences in industrial composition, this slowdown has affected the economies of some states in the West more than others. In particular, those states with economies that depend heavily on agriculture, energy production, forest products, or mining posted poor results in 1985. In contrast, buoyant consumer confidence, lower interest rates, and strong defense spending gave a boost to the economies of other states in the West.

One way to gauge the performance of this region's economy is to compare unemployment rates. For the District as a whole, year-end unemployment stood at 6.9 percent, down from 7.3 percent a year earlier and equal to the year-end national rate of 6.9 percent. The overall unemployment rate, however, masks significant differences among different parts of the West. Although overall the unemployment rate was relatively low, five of the nine western states (Alaska, Idaho, Nevada, Oregon, and Washington) ended the year with unemployment rates above 7.5 percent. California, which provides about 65 percent of the jobs in the western region, registered an unemployment rate lower than the western average, at 6.7 percent. California's apparent strength at the end of 1985 is particularly striking when compared with the 7.6-percent unemployment rate California had registered just two months earlier, in October 1985. It is also striking, although less dramatic, when compared with California's year-end 1984 unemployment rate of 7.2 percent.

Unemployment rates are not always the best measure of labor market health. Because people tend to leave an area with few employment possibilities, the unemployment rates in a region can *fall* even if that area's economy is troubled. Perhaps a better measure of economic well-being is the employment growth rate. For the nine western states as a whole, employment grew 2.2 percent during 1985. In contrast, the United States posted employment growth of only 1.8 percent during 1985. Again, looking at the western region as a whole masks significant differences among states. In six of the nine western states (Alaska, Hawaii, Nevada, Oregon, Utah, and Washington), employment grew more than it did for the United States as a whole, with these same states outperforming the region as a whole by this measure. (Although Arizona is not included in this group, by most other measures its economy performed exceptionally well in 1985.) In California, which exerts a strong influence on the western totals, employment grew 1.8 percent in 1985, the same rate as the U.S.

In many parts of the West, large urban areas had healthier economies in 1985 than did rural and smaller urban areas. The contrast is particularly striking in the Pacific Northwest, where the Portland and Seattle/Tacoma areas have thriving economies but eastern Washington and southern Oregon are suffering from prolonged slumps in the agriculture and forest products industries. A noteworthy exception to this general pattern is in the central valley of California, a region historically dependent on agriculture that is thriving despite weakness in the agricultural sector.

Table 1

1985 Economic Indicators in the West*

	Unemployment Rate %	Employment Growth, Year-over-Year %
January	7.4	4.7
February	7.2	4.6
March	7.4	4.3
April	7.5	3.7
May	7.4	2.9
June	7.6	1.6
July	7.4	2.3
August	7.3	1.7
September	7.3	2.1
October	7.4	2.4
November	7.1	2.1
December	6.9	2.2

All figures seasonally adjusted.

*Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon Utah, Washington.

* *Carolyn Sherwood-Call is an Economist at the Federal Reserve Bank of San Francisco.*

Central valley communities, including Bakersfield, Visalia, Stockton, and Sacramento, benefit from abundant supplies of available land. This land availability allows firms and individuals to enjoy the benefits of locating within a few hours' drive of major cities, while incurring lower costs and avoiding the congestion and pollution present in major metropolitan areas.

SOURCES OF STRENGTH

Consumer spending throughout the nation was robust in 1985, and the western region was no exception. The three Pacific Coast states (Washington, Oregon, and California) posted a 9.0-percent increase in retail sales for 1985 over 1984, while California alone posted an increase of 9.4 percent. In the United States as a whole, retail sales increased 6.7 percent over their 1984 level.

In line with these gains, throughout the West, employment in trade and services, which together account for almost 50 percent of total nonagricultural employment in the western region, grew enough to offset the stagnant employment in some other sectors. Employment in trade and services grew 3.9 percent in the West during 1985, much stronger than the overall growth rate of 2.2 percent. In California, trade and service employment grew 3.9 percent in comparison to overall employment growth of 1.8 percent.

One component of consumer spending that is particularly important throughout the West is tourism. Hawaii and Nevada are particularly tourist-dependent. For example, it is estimated that 30-35 percent of employment in Hawaii is related to tourism and recreation while in Nevada the figure is 20-25 percent. More typically, in California travel-generated employment in 1984 was estimated to be 5 percent of total state employment. The ability to attract visitors thus provides a significant boost to the western economy. The strong consumer spending throughout the United States meant that more Americans were able to spend vacations traveling, although the relatively high value of the dollar throughout much of the year made travel in other countries attractive buys, compared with United States destinations. The result was a year of modest, rather than spectacular, growth in most parts of the West.

Employment growth in construction, at 5.7 percent for the year, also was greater than overall western employment growth. Strength in the construction sector stemmed primarily from lower interest rates and, in some cases, an attempt to put projects in place before potential tax law changes made their tax treatment less favorable. Construction activity was distributed unevenly throughout the District, however. Washington, with a strong and growing economy, saw a 13.5-percent increase in residential permits over their 1984 level, and a 36.5 percent increase in the value of nonresidential contract awards during the same period. In contrast, Alaska, where weakness in oil markets caused generalized weakness even before the dramatic price plunge early in 1986, saw declines of 33.7 percent in residential construction permits and 9.3 percent in the value of nonresidential contract awards during 1985. California fell between these two extremes, with increases of 19.7 percent in residential permits and 8.7 percent in nonresidential contract awards during 1985.

Another source of strength in the West in 1985 was the aerospace and defense industry. In fiscal year 1985, the nine western states received 24 percent of all prime defense contract awards in the United States, or $37 billion. California led the nation in contract awards, receiving about $29 billion or 19 percent of the U.S. total. These outlays, as well as improved demand for commercial airlines, kept the aerospace sector healthy and provided an important boost to the economies in many parts of the West, particularly in California and Washington.

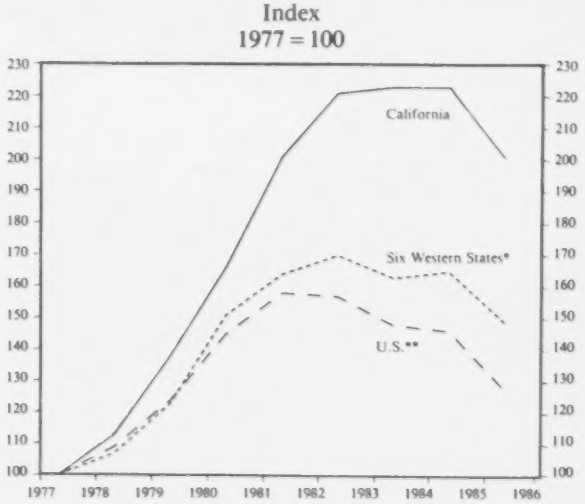
A number of major industries in the West failed to share in the prosperity created by strong consumer and defense spending. Even though the international value of the dollar declined throughout most of the year, these industries (including agriculture, semiconductors and electronics, forest products, oil, and mining) suffered from its still high value, as well as from greater foreign production, sagging world demand, and in some cases high U.S. costs.

AGRICULTURE

In the agricultural sector, increases in worldwide production of many important crops reduced commodity prices to exceptionally low levels. Soft export demand due to increased production abroad and the high exchange value of the U.S. dollar slowed the industry severely. In addition, protectionist trade barriers and subsidies granted by U.S. trade partners have hurt the sales of some U.S. agricultural products. For example, in 1984, the value of California farm exports fell to $2.8 billion from the peak of $4.2 billion in 1981. Between 1983 and 1984, California net farm income fell 5 percent to $3.3 billion; in 1985, it is estimated to have fallen further to $3 billion or even lower according to some analysts.

Figure 1

Average Value Per Acre of Farmland and Buildings



*Arizona, Idaho, Nevada, Oregon, Utah, Washington.
**Excluding Alaska and Hawaii.

Farmland values throughout the District, which rose as inflation expectations accelerated during the late 1970s, have fallen over the last few years as the profitability of agriculture has waned. Nationwide, farmland values fell 12 percent between April 1984 and April 1985. The West fared somewhat better, with an average drop in value of 10 percent for western states other than Alaska and Hawaii. Many farmers who borrowed at high interest rates against the inflated value of farm real estate during the late seventies found themselves unable to service this debt in the less prosperous environment of the eighties. Several large commercial banks in California have been forced to write off large volumes of loans as a result of the financial problems in the agricultural sector.

ELECTRONICS

The non-defense electronics industry, which was a source of exceptionally strong growth in 1984, stagnated in 1985, primarily due to a slump in activity in the semiconductor industry. Weakness in this industry is due to decelerating sales of microcomputers as well as a severe inventory imbalance caused by stockpiling and overproduction during the rapid growth periods of 1983 and 1984. In addition, U.S. manufacturers are suffering from intensified Japanese competition.

This weakness has been reflected in widespread layoffs, reduced work weeks, and plant shutdowns throughout the West. In California's Santa Clara County, which includes Silicon Valley and hence a high concentration of electronics firms, 5.2 percent of the jobs in electronics manufacturing were lost during 1985. In response to these financial pressures, most firms have ceded the market for standard memory chips to Japanese producers, and are focusing increasingly on more sophisticated chip designs and customized products.

RESOURCE-BASED INDUSTRIES

Throughout the Pacific Northwest, the forest products industries have been experiencing a prolonged shake-out and continue to suffer structural problems. Contract prices in the Pacific Northwest were bid up during the boom years in the 1970s, and consequently high stumpage costs enabled producers in Canada and the southeastern United States to take a larger share of the market. Relatively slow overall demand has further weakened the forest products industries. Between 1979 and 1984, for example, the Oregon forest products industry lost approximately 20,000 jobs and saw almost one-third of its plywood mills and 20 percent of its lumber mills closed. In 1984, timber stumpage prices for new contracts, which reflect changing expectations of future profits in the industry, averaged 67 percent below their 1980 peak. In the year between the second quarter of 1984 and second quarter 1985, stumpage prices fell 15 percent.

Recent signs are more encouraging for the Northwest timber industry. Price indices for various forest products are no longer falling as rapidly as they once were, and in some cases, they are even rising. The dollar's depreciation in 1985 is expected to result in increased demand from Japan and China, although against the yen, the Canadian dollar has fallen roughly in line with the U.S. dollar and all foreign producers continue to face Japanese import restrictions.

Softness in oil prices, caused largely by the breakdown of OPEC production limits, has created considerable uncertainty in western oil producing areas. In Alaska, government revenues depend heavily on oil taxes, and state and local government employment accounts for 20 percent of all employment in the state. Consequently, weakness in the oil market caused Alaska's employment base to stagnate during 1985. Construction activity, an important source of Alaska's employment growth over the past several years, is down sharply. In Southern California, particularly Kern County, oil is less critical to the area's economic well-being because the economy there is more diversified. Nevertheless, signs of the downturn are evident, both in lost jobs and in lower prices for used oil-drilling equipment.

A continuing excess supply of metals worldwide has resulted in lower prices and profits for the mining industry. Foreign competition, especially in the copper industry, has forced many domestic firms to reduce their production and employment significantly. One major firm shut down all of its copper divisions in Utah indefinitely, causing the state to lose nearly one-third of its mining employment and an estimated 1,800 secondary jobs, totalling approximately 0.7 percent of total state employment. Parts of Nevada and Arizona likewise suffered from a virtual standstill in parts of the mining sector.

OUTLOOK

While strong consumer and defense spending more than offset the weakness in many of the region's goods-producing sectors during 1985, preliminary signals suggest that 1986 will, like 1985, be a mixed year for the Twelfth District economy. The composition of growth will, however, be different, since in 1986 most sectors should grow moderately.

Sources of strength in 1985 continued to provide employment growth. But consumer spending is unlikely to maintain its torrid growth rate through 1986, and so more moderate growth is expected in the coming months. In contrast, construction and defense spending are likely to continue to bolster the Twelfth District because the decline in long-term interest rates that began in late 1985 should help stimulate further residential construction, and possible federal government spending reductions will not have a major impact on military spending until later in the decade.

The reduced foreign exchange value of the dollar, together with the leanness which has resulted from industry shake-outs, should cause the agriculture, forest products, and electronics industries to stabilize in 1986. Continued lower interest rates could even cause timber production to increase. Many believe that the inventory adjustment in the semiconductor industry is essentially over. If so, and if low interest rates encourage a continuation of high business investment activity, electronics industries also could resume their growth trends.

The outlook for the mining and oil industries remains

more clouded. The future of metals mining rests to a large extent on the course of inflation. If inflation remains low, demand will likely remain low, and metal prices are unlikley to rise substantially. The future of the oil industry is even harder to predict since oil prices depend not only on demand but also on the possibility of agreement among OPEC members.

Overall, the Twelfth District economy is likely to continue along its current moderate growth path, although the composition of that growth is likely to change in 1986. Consumer spending will probably grow more modestly in 1986 than it did in 1985. But the prospects for some of the troubled goods-producing sectors are likely to become brighter. In particular, the forest products industries may rebound slightly, and the high technology sector may show significant—although not spectacular—growth.

Sexual Harassment Issue Intensifies for the Business Community

by William A. Nowlin and George M. Sullivan*

Editor's Note: *The paper by Professors Nowlin and Sullivan was already in the production process when the Supreme Court rendered a decision in the case of Vinson v. Taylor. This has only a marginal effect on the content of the article and an addendum has been added by the authors to summarize the Court's decision.*

Business and industrial organizations can no longer ignore the behavior of supervisors and employers towards females that may be deemed sexual harassment. When the U.S. Supreme Court decides *Vinson v. Taylor*[1] it will substantially increase the attention given this subject by employers.

This article discusses the subject of sexual harassment and has several purposes: (1) It reviews selected research on the subject; (2) it identifies the cost to some companies for the sexual harassment behavior of their supervisors; (3) it indicates the legal basis for sex harassment and describes it according to the guidelines of the Equal Employment Opportunity Commission (EEOC); (4) it briefly examines the Vinson case currently before the Supreme Court; (5) it reviews the two categories of sexual harassment and discusses several relevant cases; and (6) it makes recommendations for the development of corporate policy regarding sexual harassment and comments on how to handle sexual harassment complaints in such a way as to reduce the probability of reoccurrence.

Is it possible that the U.S. Supreme Court is about to render a decision holding that an employer who had no knowledge of a supervisor's sexual harassment of a subordinate employee is legally liable for such unapproved activity? It is highly probable that the court will do just that when it decides the Vinson case.

As a matter of fact, the majority of federal appeals courts have been deciding cases with this result over the past few years. However, not all lower courts agree, and as a compromise, the Supreme Court heard both sides of the argument in March.

Sexual harassment has increasingly gained attention in the literature since three research studies reported the severity of the problem. In 1976, *Redbook* magazine reported that 90 percent of 9,000 women surveyed reported personal incidents of sexual harassment.[2] A joint study by *Redbook* and the *Harvard Business Review* in 1980 concluded that the overwhelming majority of respondents perceived sexual harassment to be a serious problem.[3] In addition, a 1980 government survey of 23,000 federal employees revealed that 42 percent of the women studied experienced some form of sexual harassment over a two-year period.[4] If these studies do not seem sufficiently convincing evidence of the problem's severity, note the outcome of recent litigation. Since 1977 when a circuit court held in *Barnes v. Costle*[5] that sexual harassment constitutes sex discrimination under Title VII if it adversely affects a job condition, state and federal courts, state fair employment commissions, and the EEOC have awarded plaintiffs large sums when violation of the law is evident.

IS SEXUAL HARASSMENT AN EXPENSIVE COST TO EMPLOYERS?

State and federal courts as well as the EEOC have heard and investigated cases of sexual harassment that have resulted in negotiated settlements or judgments against corporations. If the beforementioned research surveys are not convincing enough to encourage employers to eradicate sexual harassment from the workplace, then maybe the litigation costs and the cost of judgments will. Consider these cases:

- In 1985 the American Broadcasting Company and Cecily Coleman reached an out-of-court settlement in Coleman's $15 million harassment action against ABC and one of its former vice presidents.
- An executive at a CBS-owned radio station settled a $1 million sexual harassment suit for $250,000.
- A $100,000 judgment was ordered in favor of a woman in Fresno, California, who claimed that her manager plagued her with obscenity-laden threats if she would not have sex with him.
- A state district court judge awarded two women a total of $150,000 in their sexual harassment suit against Union Pacific Railroad.
- At Georgia Pacific Corporation two women were awarded $64,150 for uninvited sexual advances by a coworker.[6]

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These cases are just a small sample illustrating the fact that courts and investigating agencies are convinced that female employees are being harassed because of their sex, which is a violation of Title VII,[7] and that cases will be decided in favor of plaintiffs when it is found that sexual harassment has occurred

SEXUAL HARASSMENT DEFINED

Section 703(a)(1) of Title VII of the Civil Rights Act of 1964,[8] as amended by the Equal Employment Opportunity Act of 1972,[9] provides that it shall be an unlawful employment practice for an employer . . . to discharge any individual . . . or otherwise to discriminate against any individual with respect to . . . terms, conditions, or privileges of employment because of such individual's . . . sex.[10]

Based on this statutory provision, on November 10, 1980, the EEOC promulgated its interpretation entitled, "Final Guidelines on Sexual Harassment in the Workplace."[11] The guidelines define sexual harassment comprehensively thus: "Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature constitute sexual harassment when, (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, or (2) submission to or rejection of such conduct by an individual is used as a basis for employment decisions affecting such individual, or (3) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive work environment."[12] The guidelines articulate the view of the EEOC that an employer is responsible for discriminatory acts of its agents and supervisory employees with respect to sexual harassment regardless of whether the employer authorized or knew or should have known of the acts.[13] The majority of the circuit courts have adopted this view, at least in the cases of "tangible job benefit" sex discrimination, and it is the primary issue which must be addressed by the Supreme Court in the *Vinson v. Taylor* case.

THE CASE OF *VINSON v. TAYLOR*

Vinson v. Taylor was argued before the Supreme Court on March 27, 1986.[14] It is the first case on sex harassment ever to be heard by the high court and has generated a great deal of interest. In addition to the litigants, the Justice Department and the Equal Rights Advocates filed amicus briefs with the Court. Nineteen women's organizations have joined the Equal Rights Advocates in their amicus brief.

Ms. Vinson testified at the lower court that she was forced to submit to sexual advances by her supervisor at her place of employment, both during and after business hours, and that often her supervisor assaulted or raped her. She also testified that the supervisor caressed her on the job, followed her into the ladies room and at times exposed himself to her.[15]

The lower court decided in favor of the employer. On appeal, the circuit court relying on its two earlier decisions in *Barnes v. Costle*[16] and *Bundy v. Jackson,*[17] opined that at least two separate avenues may be open to a Title VII plaintiff for sex harassment: (1) "tangible job benefit" theory which is discrimination based upon the imposition of sex-oriented conditions to employment status, and (2) the "environmental" theory which is discrimination based solely upon the existence of an intimidating, hostile or offensive work environment.

DEVELOPMENT OF THE TWO TYPES OF SEXUAL HARASSMENT

Two types of sex harassment have been defined in the federal court system since 1977. One of the early cases, *Tompkins v. Public Service* (1977),[18] first suggested the two types. The court directly addressed the first type, "tangible job benefits" sex harassment, when it held that Title VII was violated when a supervisor with the actual or constructive knowledge of the employer made sexual advances or demands upon a subordinate employee and conditioned that employee's job status on a favorable response to those advances or demands.

Although a relevant fact situation was not before the court, the court suggested the second type, the "environmental" sex harassment theory, when it addressed the plaintiff's argument that under Title VII she was also entitled to a work environment free from the psychological harm flowing from an atmosphere of discrimination. This case probably had an impact on the EEOC because the guidelines it established in 1980 clearly contained the two specific types of sexual harassment.

The first part of the guidelines clearly refers to the "tangible job benefit" sex harassment. The guidelines define sexual harassment: "Unwelcomed sexual advances, requests for sexual favors and verbal or physical conduct of a sexual nature constitute sexual harassment when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment."[19]

The circuit courts have found sexual harassment of the "tangible job benefits" type in several cases:

- *Miller v. Bank of America* (1979)—Ms. Miller was discharged for refusing sexual relations with her supervisor.[20]
- *Henson v. City of Dundee* (1982)—Ms. Henson was prevented from attending a professional seminar because she refused to agree to have sexual relations while there with her supervisor.[21]
- *Craig v. Y and Y Snacks* (1983)—the court found that Ms. Craig refused sex relations with her supervisor and was discharged under the pretext of poor job performance.[23]
- *Horn v. Duke Homes* (1985)—Ms. Horn was terminated for refusing sexual relations with her supervisor.[23]

"Environmental" sex harassment, the second type, is also defined in the guidelines: "(2) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile offensive work environment."[24]

In 1982, the Circuit Court of Appeals in Washington, D.C., approved the environmental type of sex harassment

for the first time. In *Bundy v. Jackson*[25] the court posed the question of whether the sexual harassment of the sort Ms. Bundy suffered amounted by itself to sex discrimination in a case where the victim had not lost a tangible job benefit.

The court answered its question by stating that "though no court has as yet so held, we believe that an affirmative answer follows ineluctantly from numerous cases finding Title VII violations where an employer created or condoned a substantially discriminatory work environment regardless of whether the complaining employee lost any tangible job benefits as a result of discrimination." In connection with this case one should note the response of a supervisor when he was told by Ms. Bundy that two other supervisors repeatedly sexually propositioned her. He said, "any man in his right mind would want to rape you."[26]

There are several cases, since Bundy, heard at the circuit court of appeals level where the judiciary found sexual harassment of the "environmental" type:

- *Henson v. City of Dundee* (1982)—the subjecting of the employee to numerous barrages of demeaning sexual inquiries and vulgarities throughout the course of two years.[27]
- *Katz v. Dole* (1984)—the supervisor responded to the plaintiff's complaint of sexual harassment by a coworker by propositioning her himself. The supervisor also suggested that the sexual harassment of the coworker might be solved by submitting to him.[28]
- In *Horn v. Duke Homes* (1985)—the employee, after refusing sexual relations with her supervisor, was subjected to the following treatment: leers, obscene gestures, lewd comments, and remarks about the employee's sexual relations after her husband left her.[29]
- *McKinney v. Dole* (1985)—the female employee was subjected to continuing verbal abuse and sexual harassment, sexual exposure, being rubbed against, and continual request for sexual favors.[30]
- *Davis v. U.S. Steel* (1985)—the female plaintiff was subjected to 15 months of questionable language, off-color jokes, and sexual jokes and innuendos by her supervisor. In addition, a pat on the female employee's posterior by her supervisor was characterized by the supervisor's supervisor as "an honest friendly gesture."[31]

Undoubtedly and unequivocally, the circuit courts have affirmed that female employees are entitled to a workplace (1) where sexual considerations are not made a condition of employment, and (2) void of an atmosphere that is intimidating and hostile.

USE OF INTERNAL COMPLAINT PROCEDURE NOT REQUIRED

The Ninth Circuit in the case of *Miller v. Bank of America*[32] responded to the question of whether an employee is required to exhaust the internal grievance procedures of the organization before seeking relief by the courts. The court, relying on similar cases[33] involving race discrimination, merely stated "we decline to read an exhaustion of company remedies into Title VII."[34]

SHOULD EMPLOYERS BE HELD STRICTLY LIABLE?

A crucial issue in the Vinson case is whether a corporate employer is accountable under Title VII for its supervisor's sexual harassment of a woman employee notwithstanding the employer's lack of actual knowledge thereof.

The D.C. Circuit determined that the Vinson facts constituted the "environmental" offense. In addition, the court had no difficulty in concluding that an employer may be held accountable for discrimination accomplished through sexual harassment by "any supervisory employee with authority to hire, to promote or to fire."[35] The court reasoned that an employer's delegation of that much authority vests in the supervisor such extreme power over the victimized employee that the supervisor's status as an "agent" of the employer cannot be doubted. The court further expanded the scope of corporate liability when it stated that it did not believe that vicarious responsibility was limited to discrimination by supervisors "so richly endowed." The court stated that a mere existence or even the appearance of a significant degree of influence in vital job decisions gives any supervisor the opportunity to impose upon employees.[36]

Furthermore, the court reasoned that opportunity is not dependent solely upon the supervisor's authority to make personnel decisions. The ability to direct employees in their work, to evaluate their performances, and to recommend "personnel actions" carries attendant power to coerce, intimidate, and harass. The court concluded that for this reason employers must answer for sexual harassment of any subordinate by any supervising superior.[37]

The magnitude of this liability problem cannot be underestimated. It affirms that when a supervisor sexually harasses a female employee, the employer can no longer argue against being responsible on the basis that the act was not one sanctioned by the employer as a duty of the supervisor. The D.C. Circuit concluded that to hold that an employer cannot be reached for Title VII violations unknown to him is to open the door to circumvention of Title VII by the simple expedient of looking the other way.[38] These facts, now more then ever before, necessitate the establishment and enforcement of a corporate policy that articulates the employer's position on sexual harassment.

CORPORATE POLICY DEVELOPMENT RECOMMENDATIONS

There are several steps that management can follow to insure that adequate attention is paid to this important subject: define sexual harassment; appoint a sexual harassment compliance officer; affirmatively raise the subject; develop sanctions; investigate; and take affirmative action.

1. **Define Sexual Harassment in a Manner that May Be Understood by All Employees and Supervisors.** "Tangible job benefits" sex harassment occurs when a complaining employee believes and can convince a court that the employee's refusal of sexual advances adversely affects her job status. Management must explain that supervisors have no authority to condition any employment decision on sexual favors or relations with employees, and that all employment-related decisions will be made on the basis of

company policy or the collective bargaining agreement.

Managers should be instructed to cease any behavior of supervisors and subordinates that interferes with the work performance of female employees or that creates an intimidating, hostile, offensive work environment. Therefore, the following types of behavior should be discouraged in the workplace: off-color and sexual jokes; sexual innuendos; verbal abuse; demeaning sexual inquiries; vulgarity; obscene gestures; lewd comments; and other behaviors of this nature.

2. **Appoint a Sexual Harassment Compliance Officer.** A corporate policy stating that sexual harassment complaints should be reported to the personnel office or the offending supervisor's supervisor is clearly an insufficient procedure. In most of the sexual harassment cases decided by the circuit court there existed articulated company policy concerning sexual harassment, and the normal complaint channels of personnel departments existed. It is apparent that vague pronouncements and cumbersome personnel mechanisms are inadequate for the problem now confronting corporations in this area. Should the Supreme Court decide to ratify the decisions of the majority of the circuit courts, sex harassment may become a strict liability.

3. **Affirmatively Raise the Subject of Sex Harassment.** All corporate employers have supervisory meetings and other means of communicating with supervisory and managerial personnel. These channels should be utilized to inform supervisors about recent developments in sexual harassment; to discuss fully the employer's policy; and to emphasize that the policy is a matter of serious concern for all.

A policy articulating the corporation's concern about sexual harassment of employees by supervisors may be stated with simplicity and clarity. Consider the following example:

Corporate Policy Concerning Sexual Harassment

This organization does not support or condone sexual harassment. Any employee who believes that she or he is being sexually harassed by any coworker, supervisor, or customer, should do the following:

- Notify the person harassing you that you are offended by his or her actions and that you consider his/her behavior to be sexual harassment, and that you expect it to cease.
- If the offending person does not react to your complaint with sensitivity, then immediately contact the sex harassment compliance officer by telephone, written correspondence, or in person.
- If you feel that your entire work area is characterized by lewd comments, obscene gestures, sexual remarks, or any other offensive conditions, contact the sexual harassment compliance officer.
- If within a reasonable period of time you feel that your complaint is not being processed adequately, communicate directly with the director of personnel or other top management official.

4. **Express Strong Disapproval—Develop Sanctions.** To emphasize the firmness of the managerial goal to eradicate sexual harassment from the workplace, strong sanctions must be developed, articulated, and enforced. For example, a first offense might warrant a warning letter of suspension for a potential second offense. A second offense might warrant a two week suspension without pay accompanied by a warning of permanent discharge; and a third offense—a permanent discharge.

It is well to remember that a Supreme Court affirmance of the circuit court decisions which have discussed sexual harassment to date may permit the offended employee to file a complaint directly with the federal court without the necessity of first exhausting the internal grievance procedures of the corporation. It is important, therefore, to have employees recognize as soon as possible that their complaints about sexual harassment will receive proper treatment.

5. **Communicating Corporate Policy About Sexual Harassment.** Employers spare few resources when communicating policy information about customer service, sales, and new products and ventures. Promulgation of the company policy on sexual harassment should receive similar priority treatment. For example, a memo from a high ranking official, a message in pay envelopes, or a slogan against sexual harassment stamped on the payroll envelope would guarantee that employees throughout the organization receive the corporate policy in this sensitive area.

Another way of communicating this important corporate policy is to develop a cadre of training specialists in the area of sexual harassment prevention and dispatching them throughout the organization to insure accurate and uniform dissemination of information.

6. **Investigate All Complaints.** Since the Ninth Circuit Court of Appeals' decisions have already ruled that exhaustion of personnel grievance procedures is not a prerequisite for filing a sex harassment suit in the federal district court, it is imperative that employees understand that their complaints will receive expeditious and just attention within the corporation.

All complaints should be investigated by the sexual harassment compliance officer without the assistance of the immediate supervisor of the individual accused of sexual harassment. The cases indicate that retaliation and further sex harassment have resulted from reports to or involvement of immediate supervisors.

The first step in the inquiry should be a thorough interview with the complaining employee. Care must be taken not to discourage the complainant. Second, the compliance officer should interview the supervisor who was accused of sex harassment. Third, all witnesses should be interviewed. Fourth, the investigation should include an inquiry into prior disciplinary warnings, denial of merit increases because of supervisory ratings, and refusal of promotion or transfers by the supervisor in question.

If the allegations are concerned with environmental harassment rather than tangible job benefits harassment, non-party witnesses should be interviewed in an atmosphere of complete confidentiality.

After the investigation is completed the most important task of the compliance officer is to make a judgment within

a reasonable period of time.

All investigations should be thorough, objective, and fair with each step of the process well documented.

7. **Take Immediate and Positive Action.** Should a determination be made by the compliance officer that an employee has been victimized by sexual harassment, the articulated sanctions of the corporation must be exercised expeditiously.

If the sexual harassment is determined to be environmental rather than an isolated act of one supervisor, a detailed report should be made, with recommendations, to senior management in anticipation of immediate corrective action.

CONCLUSION

Admittedly, a number of complex problems surround the issue of sexual harrassment, yet these problems are not insurmountable. The *Vinson v. Taylor* case before the Supreme Court affirms that this matter has gained increased importance in the minds of advocates for a sexual-harrassment-free workplace. Managers can reduce their liability by recognizing the problem and following the suggestions discussed here.

ADDENDUM

After this article was finalized for publication, the Supreme Court rendered its decision in the first sex harrassment case ever decided by the high court. In remanding the case to the trial court for additional evidence, the court held:

- Sex harassment is sex discrimination under Title VII.
- For sexual harassment to be actionable, it must be sufficiently severe or pervasive to alter the conditions of the victim's employment and create an abusive working environment.
- Both "tangible job benefit" and "environmental" sex harassment are violative of Title VII.
- Existence of a grievance procedure and a policy against sex harassment coupled with a complainant's failure to invoke that procedure does not necessarily insulate an employer from liability. Procedures must be calculated to encourage victims of sex harassment to come forward if the procedures are going to be used as an employer defense in litigation.
- A complainant's sexually provocative speech or dress is relevant in determining whether the alleged sexual advances were in fact unwelcome.
- On the critical issue of whether an employer was strictly liable for the sex harassment of supervisory personnel, the Supreme Court was ambivalent. It said that,

  "We therefore decline the parties' invitation to issue a definitive rule on employer liability...the Court of Appeals erred in concluding that employers are always automatically liable for sexual harassment by their supervisors."[39]

  However the court also maintained that,

  "...absence of notice to an employer does not necessarily insulate that employer from liability."[40]

Unquestionably, the concept of employer liability for sex harassment will be subject to further refinement at the lower courts before the Supreme Court considers this issue in the future.

Footnotes:

[1]Vinson v. Taylor, 37 EPD 35,232, 753 F2d 141 (CA-DC, 1985).

[2]"How Do You Handle . . . Sex on the Job?" *Redbook* 46 (January, 1976): 74-75.

[3]Collins, E.G.C., and T.B. Blodgett. "Sexual Harassment: Some See it ... Some Won't." *Harvard Business Review* 59 (March-April, 1981): 76-79.

[4]United States Congress, House Committee on Post Office and Civil Service. "Sexual Harassment in the Federal Government (Part II), 96 Congress, 2nd Session, 25 September 1981.

[5]Barnes v. Costle, 14 EPD 7,755, 561 F2d 983 (CA-DC, 1977).

[6]Garvey, Margaret S., "The High Cost of Sexual Harassment Suits." *Personnel Journal,* January 1985, pp. 75-79.

[7]78 Stat. 253, 42 U.S.C. 2000 e et seq.

[8]Ibid.

[9]86 Stat. 103, 42, 42 U.S.C. 2000 e.

[10]Ibid., 2000 e - 2(a)(1).

[11]29 C.F.R. 1604. 11(a) - (f) 1980.

[12]Guidelines, 29 C.F.R. 1604. 11(a).

[13]Ibid. 11(d).

[14]Vinson v. Taylor, supra.

[15]Ibid.

[16]Barnes, supra, p. 993.

[17]Bundy v. Jackson, 25 EPD 31,710, 641 F2d 934 (CA-DC, 1981).

[18]Tompkins v. Public Service, 15 EPD 7,956, 568 F2d 1044 (CA-3, 1977).

[19]29 C.F.R. 1604. 11(a) - (f) 1980.

[20]Miller v. Bank of America, 20 EPD 30,086, 600 F2u 211 (CA-9, 1979).

[21]Henson v. City of Dundee, 32 EPD 33,639, 682 F2d 897 (CA-11, 1982).

[22]Craig v, Y & Y Snacks, 32 EPD 33,922, 721 F2d 77 (CA-3, 1983).

[23]Horn v. Duke Homes, 36 EPD 35,056, 755 F2d 599 (CA-7, 1985).

[24]Guidelines, 29 C.F.R. 1604. 11(a).

[25]Bundy v. Jackson, supra, p. 934.

[26]Ibid.

[27]Henson v. City of Dundee, supra, p. 910.

[28]Katz v. Dole, 32 EPD 33,639, 709 F2d 251 (CA-4, 1984).

[29]Horn v. Duke Homes, supra, p. 605.

[30]McKinney v. Dole, 39 EPD 35,339, 765 F2d 1129 (CA-DC, 1985).

[31]Davis v. U.S. Steel, 779 F2d 209 (CA-4, 1985).

[32]Miller, supra, p. 214.

[33]Smallwood v. National Car Co., 18 EPD 8,676, 583 F2d 419 (CA-9, 1978); Alexander v. Gardner Denver Co., 8 EPD 9,825, 415 U.S. 35 (1977).

[34]Miller, supra, p. 214.

[35]Vinson, pp. 149-150.

[36]Ibid., p. 150.

[37]Ibid.

[38]Ibid., p. 151.

[39]Meritor Savings Bank, FSB v. Vinson, 46 CCH S Ct. Bull. P. B3183, B198.

[40]Ibid.

A Comparison of Business Tax Climates In the Western U.S.*

*by Kathy Bigelow-Carter and John L. Dobra***

OVERVIEW

State economic development policy initiatives and competition between states to attract new industry have increased substantially in the 1980s. In large part, these developments are generally attributed to the national and international recession early in the decade and the simultaneous reduction in federal expenditures in support of economic development at the national level.

The latter are ostensibly a consequence of the Reagan administration's efforts at deficit reduction, and have resulted in cut-backs in federal efforts via federal economic development agencies, e.g., Economic Development Administration, Small Business Administration, and numerous other programs in agencies making public investments in areas tangential to economic development such as Housing and Urban Development and the Federal Aviation Administration, among others. The upshot of these funding reductions has been the emergence of numerous state policy initiatives to fill the apparent void.

The objectives of this discussion are to examine the implications of this new state competitiveness in two specific areas. First, in order to narrow the focus, our discussion will specifically address the manifestations of increased state competitiveness in the use of tax policies as a means of promotional economic development. Second, we further narrow the focus to the western United States to examine how the states in this region have responded to the challenges of increased state competitiveness and decreased federal support with their tax policies. This region is of particular interest because it has been one of the faster growing and most competitive areas of the country.

The primary objective of this research has been to provide a comparison of business and personal taxes in eleven far western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming). Taxes, of course, are only one aspect of state competitiveness. Indeed, low taxes can be a very misleading indicator of state competiveness if taxes are kept low at the expense of publicly funded "overhead capital" and other services. However, because of their ease of measurement, firms can easily evaluate the tax climate in relocation and expansion decisions.

The methodology used to make the first of these comparisons is similar to that used by Kieschnick (1981). We examine the tax burden of a "hypothetical manufacturing firm" where the characteristics of this "hypothetical" firm are based upon the composite income statement of this sector of the U.S. economy in 1984 (U.S. Federal Trade Commission, 1985, and U.S. Internal Revenue Service, 1984). We have also used manufacturing wages and estimated federal and state taxes paid to estimate this aspect of state and local tax burdens on individuals.

It should be noted, however, that we make no effort to develop an evaluative rating scale as done by the Alexander Grant & Company's *General Manufacturing Climates, Places Rated Almanac,* etc. While such ratings can be of value, they are inevitably flawed by legitimate differences in opinions as to what constitutes an attractive business climate, let alone the problem of how to measure it. Our efforts are more limited in their focus on tax climates and how recent changes in these climates relate to the larger issue of increased state industrial competitiveness in recent years. The efforts here are directed at the relatively simple question: Do state taxes matter in economic development?

THE TAX CLIMATE IN THE FAR WESTERN STATES

According to the Council of State Governments (1984-85), more state tax increases were enacted during the 1982-83 biennium than during any other biennium in the past decade. The far western states were, by no means, an exception to this trend. Seven of the eleven states increased sales tax rates and in some cases these increases were substantial. For example, Idaho increased its sales tax rate by 50 percent (from 3 percent to 4.5 percent), Arizona by 25 percent (from 4 percent to 5 percent), Washington by 20 percent (from 5.4 percent to 6.5 percent), etc. See Table 1 for current levels of Sales and Use taxes. Partially as a consequence of these tax changes, the eleven far western states are not significantly below the national average in this tax category.

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**The authors are a Business Development Associate with Sierra Pacific Resources and the Acting Director of the Bureau of Business and Economic Research, University of Nevada-Reno, respectively. We wish to acknowledge the assistance of several reviewers; however, we assume responsibility for any remaining errors.

Table 1

Sales & Use, Property, and Income Taxes in Eleven Far Western States

State	Sales[1] & Use	Property[2]	Income[3] Corporate	Income[3] Personal
Arizona	5.0%	$22.73	2.5-10.5%	2-8%
California	6.0	11.27	9.6	1-11
Colorado	3.5	25.18	5.0	3-8
Idaho	4.5	2.68	7.7	2-7.5
Montana	0.0	28.56	6.75	2-11
Nevada	5.75	12.00	0.0	0.0
New Mexico	3.75	8.72	4.8-7.2	0.7-7.8
Oregon	0.0	22.84	7.5	4.2-10
Utah	4.625	15.00	5.0	2.75-7.75
Washington	6.5	12.00	0.0	0.0
Wyoming	3.0	19.67	0.0	0.0
Region Average	3.875%	$16.42	N.A.	N.A.
U.S. Average	4.19%	$25.12	N.A.	N.A.

1. Source: *All States Tax Handbook*. New York: Prentice Hall, Inc., 1985.

2. Tax liability per $1,000 of market value. Actual rates may vary within states due to additional local levies.

3. Income tax entries that are hyphenated indicate the use of a sliding scale, or graduated tax. Reporting Region and U.S. Average rates in these cases is inappropriate because income bracket definitions for income tax purposes vary between states. However, bracket definitions are taken into account below for calculation of tax burdens for hypothetical consumers and manufacturing firms.

It should be noted that in most states localities can add local sales (as well as property and income) tax levies to those imposed by states. Because of limitations in available data, local taxes are not always included in the state revenues reported in Table 1. It should be added that, in general, tax data between states are not strictly comparable because of these local levies and differences in definitions of taxable sales, property, and income.

In addition to sales tax increases, four other states (Idaho, New Mexico, Utah, and Colorado) increased (or delayed planned decreases in) corporate income taxes. New Mexico increased its personal income tax; and finally, six far western states (and sixteen states nationally) adopted unitary taxes during this period (California, Colorado, Idaho, Montana, Oregon, and Utah).

Also shown in Table 1 are property tax levels. As can be seen, the eleven western states' average is about two-thirds of the national average. Of all of the western states, only one western state is much above the national average (Montana). Colorado is approximately at the national average, and the remaining nine states have rates ranging down to one-tenth the national average (Idaho).

Additional but generally less quantifiable forms of taxation in the eleven western state region are shown in Table 2. While it may be tempting to conclude that these states have a generally fair tax climate based on the lack of many of these taxes, this conclusion is unwarranted. Depending upon the composition of the cost of goods sold by firms, taxes represented on both tables may have impacts ranging from being fairly significant, as in the case of unitary taxation of a firm with world-wide operation, or fairly insignificant, as in the case of inventory taxation of firms that hold no inventories (service, finance, and other sectors of the local economy).

Table 2

Additional State Taxes[1]

State	Inventory	Franchise	Unitary	Inheritance Estate, and Gift
Arizona	No	No	No	E
California	No	No	World	E
Colorado	No	No	Nation	E, G
Idaho	No	No	World	E, I
Montana	No	No	Nation	E, I
Nevada	No	No	No	No
New Mexico	No	Yes	No	E
Oregon	No	Yes	World	E, G, I
Utah	No	No	Nation	E
Washington	No	Yes	No	E
Wyoming	No	Yes	No	E, I

1. Source: *All States Tax Handbook*. New York: Prentice Hall, Inc., 1985.

Perhaps the only conclusion to be drawn from this brief look at taxes in the far western states is that the business tax climate cannot be assessed in a cursory manner. We not only need to look at tax rates, we need to examine the burdens these taxes impose on businesses. In the next two sections of this paper we carry out this exercise for a hypothetical manufacturing firm and a hypothetical manufacturing worker in an attempt to establish a basis for comparing the business and individual tax burdens in these states. Our "hypothetical" firm and employee examples have obvious limitations in terms of their "representativeness," but they do serve as interesting "benchmarks."

TAX BURDEN OF A "HYPOTHETICAL MANUFACTURING FIRM"

Tables 3 and 4 present an abbreviated Balance Sheet and Income Statement for the hypothetical firm used here for determining business tax burdens. Data used for developing Tables 3 and 4 were taken from two sources: 1) the Federal Trade Commission's consolidated Balance Sheet and Income Statement for the manufacturing sector in 1984 (U.S. Federal Trade Commission, 1985), and 2) Internal Revenue Service report on corporate income taxation for 1981 (U.S. Internal Revenue Service, 1984). The number of manufacturing firms reporting to the IRS was divided into the manufacturing sector's consolidated financial statements in an attempt to describe the average manufacturing firm.[1]

Table 3

Hypothetical Manufacturing Firm
Income Statement, December 31, 1984

Revenue		
Sales		$9,280,000
Expenses		
Cost of Goods Sold	$1,856,500	
Other Expenses	6,789,657	
Total Expenses		8,646,257
Net Income		633,743
Other Income		24,526
Net Income (before taxes)		$ 658,269

Table 4

Hypothetical Manufacturing Firm
Balance Sheet, December 31, 1984

CURRENT ASSETS		
Cash	$ 500,000	
Marketable Securities	758,125	
Accounts Receivable	2,083,345	
Inventory	1,256,428	
Total Current Assets		$4,597,898
Property, Plant, & Equipment		2,794,252
Total Assets		$7,392,150
CURRENT LIABILITIES		
Accounts Payable	$1,078,785	
Notes Payable	958,215	
Accrued Wages Payable	963,000	
Total Current Liabilities		$3,000,000
Long Term Liabilities		
Bank Loan Payable	$ 683,643	
Mortgage Payable	2,500,000	
Total Long Term Liabilities		3,183,643
Total Liabilities		$6,183,643
Stockholder's Equity		
Capital Stock	$ 957,344	
Retained Earnings	251,163	
Total Equity		1,208,507
Total Liabilities & Stockholder's Equity		$7,392,150

The tax burdens for our hypothetical firm are presented in Table 5 and have been developed using the following assumptions. First, Sales and Use tax liabilities have been calculated based on costs of goods sold from Table 3, which are assumed to be 20 percent of sales and exclude labor and other services expenses which are not subject to the Sales and Use tax. It should be noted that the assumption that the portion of cost of goods sold that is taxable in 20 percent of sales is arbitrary since the manufacturing sector's consolidated income statement provided by the Federal Trade Commission does not break out cost of goods sold by taxable and nontaxable categories. However, discussions with accountants conducted during this research suggested that this assumption will produce a reasonable approximation.

Table 5

State Taxes Paid by Hypothetical Manufacturing Firm

	Sales/Use Tax	Property Tax	Corp. Income Tax	Company Tax Burden	Rank
Arizona	92,830	63,513	(a)	156,343	8
California	111,396	31,491	63,193	206,080	11
Colorado	64,981	70,359	32,913	168,253	10
Idaho	83,547	7,489	50,687	141,723	6
Montana	0	79,804	44,433	124,237	4
Nevada	106,754	33,531	0	140,285	5
New Mexico	69,623	24,366	(a)	93,989	1
Oregon	0	63,821	49,370	113,191	3
Utah	85,868	41,914	32,913	160,695	9
Washington	120,679	33,531	0	154,210	7
Wyoming	55,698	54,963	0	110,661	2

(a) No corporate income tax on Net Income under $1 million.

The second component of company tax burdens shown on Table 5 is the property tax. The tax base for these calculations is the hypothetical firm's Property, Plant and Equipment shown on the firm's Balance Sheet in Table 4 ($2,794,252). The property tax rates shown in Table 1 have been converted to tax per $1,000 of *market value,* i.e., the tax rate shown is the equivalent of the statutory rate using a 100-percent assessment rate. The calculation is relatively straightforward, except to the extent that states may define and depreciate property differently.

The final component of company tax burden considered here is the corporate income tax. Three western states do not tax corporate income, and in two additional states our hypothetical firm would have a taxable income too low to be subject to the tax. Note that states with a corporate income tax, excluding Oregon and Montana (which have no sales and use taxes), are among the states with the heaviest business tax burdens.

Using these assumptions, note that the state tax paid by the hypothetical firm ranges from 14.28 percent of Net Income Before Taxes in New Mexico to 31.31 percent in California, with a region mean of 21.69 percent (Table 6). Hence, state tax burdens in the 11 far western states range from 34 percent below to 44 percent above the region mean.

Variations in business tax burdens within the region can be brought into perspective with the aid of Table 6, showing state taxes as a percent of our hypothetical firm's net income before taxes, and the effect of state taxes on the firm's overall profitability reflected by the firm's return on assets. The impact of state taxes on the hypothetical firm's return on assets differs by only 1.5 percent between the state with the least (New Mexico) and the greatest (California) tax burden.

Table 6

	State Taxes as a % of Income Before Taxes %	Return on Assets After State Taxes %
Arizona	23.75	6.79
California	31.31	6.12
Colorado	25.56	6.63
Idaho	21.53	7.00
Montana	18.82	7.22
Nevada	21.31	7.01
New Mexico	14.28	7.63
Oregon	27.30	7.37
Utah	24.41	6.73
Washington	23.43	6.82
Wyoming	16.81	7.41
Region Mean	21.69	6.97
Region Range	17.03	1.51

Hypothetical Firm's Net Income = $658,269, 8.9% Return on Assets.

It is unlikely, in this calculation, that state taxes would be the "tail that wags the dog" of location decisions except in marginal cases or where a firm's cost structure differed drastically from the hypothetical firm considered here. In short, differences in tax burdens are quite likely to be more than offset by other cost considerations such as locational advantage, labor cost, state environmental and other regulations, transportation costs and other factors associated with access to markets, and other amenities associated with "quality of life" in a firm's relocation and expansion decisions.

EMPLOYEE TAX BURDENS

Another way that state taxes can affect a firm's operating costs is through their impact on employees' take-home pay. While it is likely that state taxes would affect manufacturing workers' location decisions considerably less than the availability of employment, these costs can be shifted to employers in certain circumstances. More specifically, the less elastic the supply of labor in geographic and skill-level segments of markets (e.g., limited availability of skilled and professional workers in an area), the larger the proportion of an employee's tax burden that is expected to be shifted to the firm.

States with higher manufacturing wages may tend to reflect higher skill mixes in their local labor forces and/or a relative shortage of workers. The theory suggests that, in such cases, state taxes will tend to be shifted to employers. Hence, higher individual state tax burdens combined with higher incomes will tend to reflect higher labor costs for employers because these tax burdens tend to reduce the elasticity of supply of labor. For this reason, comparisons of workers' take-home pay are of interest as an indication of labor costs.

Tables 7 and 8 show calculations of individuals' tax burdens from federal and state income, sales, and property taxes. For tax purposes, the hypothetical manufacturing employee is assumed to be the sole support of a family of four and to own a median valued home in a major metropolitan area in his state. These assumptions are unrealistic as a demographic and financial description of the "average manufacturing worker but, again, they do allow us to make a "benchmark" comparison.

Table 7 shows gross annual earnings for manufacturing workers and state taxes by category, as well as net earnings after state taxes. The percentage of net earnings after state taxes ranges from 95 percent in New Mexico to 74 percent in Arizona. These differences reflect the combined effects of wage levels and state tax burdens, so their interpretation should be approached with caution.

We also need to consider the effects of the federal income tax and its interaction with state taxes that may be written off in the computation of federal tax liabilities. As can be seen from Table 8, the inclusion of federal tax liabilities in

Table 7

Hypothetical Manufacturing Employees' State Tax Burdens

	Gross[1] Annual Earnings	State[2] Income Tax	Sales[3] Tax	Property[4] Tax	Total State Taxes	Earnings After State Taxes	Take-Home Earnings as a % of Gross (Rank)
Arizona	$18,699	$1,273	$240	$3,322	$4,835	$13,864	74.1% (11)
California	19,802	723	282	2,173	3,178	16,624	84.0 (6)
Colorado	18,658	1,108	101	2,765	3,974	14,684	78.7 (10)
Idaho	17,659	1,174	239	203	1,616	16,043	90.8 (5)
Montana	21,674	1,387	0	3,101	4,488	17,186	79.3 (9)
Nevada	18,762	0	221	1,379	1,600	17,162	91.5 (3)
New Mexico	15,850	357	289	795	1,441	14,409	94.8 (1)
Oregon	21,299	1,976	0	2,327	4,303	16,996	79.8 (8)
Utah	18,167	1,295	343	1,650	3,288	14,879	81.9 (7)
Washington	23,733	0	318	1,271	1,589	22,144	93.3 (2)
Wyoming	18,138	0	200	1,439	1,639	16,499	91.0 (4)

1. Alexander Grant & Co., *General Manufacturing Climates Study*, (1985).
2. *All States Tax Handbook*. New York: Prentice-Hall, Inc., 1985.
3. Internal Revenue Service "Optional Deduction for State Sales Taxes" for "4" and "3&4" per household.
4. Based on tax rate, assessment method, and Coldwell Banker's "Home Price Comparison Index," (1985).

Table 8

Hypothetical Employees' Federal Tax Liabilities

	Gross Annual Earnings	Earnings After State Tax	Federal Income Tax	Federal Tax as a % of Gross	Net Earnings	% of Gross
Arizona	$18,699	$13,864	$ 757	4.0%	$13,107	70.1%
California	19,802	16,624	1,143	5.8	15,481	78.2
Colorado	18,658	14,684	869	4.7	13,815	74.0
Idaho	17,659	16,043	1,058	6.0	14,985	84.9
Montana	21,674	17,186	1,231	5.7	15,955	73.6
Nevada	18,762	17,162	1,231	6.6	15,931	84.9
New Mexico	15,850	14,409	827	5.2	13,582	85.7
Oregon	21,299	16,996	1,199	5.6	15,797	74.2
Utah	18,167	14,879	897	4.9	13,982	77.0
Washington	23,733	22,144	2,050	8.6	20,094	84.7
Wyoming	18,138	16,499	1,121	6.2	15,378	84.8

these calculations does not affect the rankings of states significantly. That is, New Mexico is still the lowest tax state, Arizona is still the highest, and there are only a few minor position changes in the rankings when ranked by final take home pay as a percentage of gross.

The most significant effect of considering federal tax is the narrowing of differences in state tax burdens. That is, the range between the highest and lowest take-home pay as a percentage of gross after state taxes is almost 21 percentage points compared to under 16 percentage points after federal taxes. Also note that, with the exception of New Mexico, which has low manufacturing earnings, other states with the highest proportion of take-home pay to gross earnings after state taxes, pay the highest percentages of federal taxes on gross earnings.

For example, in Washington where take home pay is 93.3 percent of gross earnings after state taxes, federal taxes are 8.6 percent of gross. Similarly, in Nevada and Wyoming, where take-home pay after state taxes is relatively high, federal tax liabilities are 6.6 percent of gross and 6.2 percent, respectively, i.e., the next highest in the region. Finally, note that in Arizona, which has the highest state tax burden, our hypothetical manufacturing employee would pay about one half as much in federal taxes (4 percent of gross) as a similar worker in Washington.

In short, the effect of federal taxes is to mitigate differences in state taxes and the apparent competitve advantages between states based on taxes. Depending upon the average marginal tax rate of households, the average taxpayers will pay between 20 and 30 more cents to the Federal Government in taxes for every dollar not paid to their respective states.

SUMMARY AND CONCLUSIONS

In spite of limitations in the data and methodology used above to examine state tax burdens on a hypothetical manufacturing firm and its employees, the analysis cannot support the hypothesis that differences in state tax burdens provide any state with a competitive advantage in promoting economic development. Any differences in state taxes on individuals, we have seen, are systematically eroded by federal taxes.

With respect to business taxes, differences between states have such a small effect on overall profitability that, as noted, state taxes are unlikely to be a significant determinant of business location and expansion decisions. There are simply too many other factors, primarily associated with access to markets, that can have bigger impacts on profitability. This conclusion summarizes the implications of the analysis above as well as previous research findings (Atkinson, 1984; Aulde, 1980; Bowman, 1984; Evans and White, 1980) that while firms view low taxes favorably, they are simply not very important.

Another point to be considered with respect to business taxes is the role of federal corporate income tax. Computation of this tax is quite complicated because it depends on a series of highly specific assumptions which may or may not reflect reality. Nonetheless, it remains the case that state taxes are a write-off against federal tax liabilities. Hence, as in the case of personal taxes, differences between state business tax burdens will tend to be mitigated by taxes levied at the federal level.

In an effort to test the implications of our analysis more rigorously, the final piece of evidence uses regression analysis to test the hypothesis that state tax differentials are capable of explaining differences in economic growth among the eleven far western states examined in this study. The experimental design, represented by the following equations, holds that state growth in employment between 1979 and 1983 is a function of state tax burdens on businesses and individuals. Simple correlations between employment growth and these taxes showed positive correlations between taxes and growth (i.e., higher taxes imply higher growth) so in an effort to control for the effect of various other factors influencing growth, population growth has been introduced in the equations as a control variable.

We let E represent the employment growth which is used here as a proxy for economic growth. Clearly, this measure has shortcomings as a measure of economic growth, but when we also let P represent population growth in the same period, we filter out much of the influence of variables omit-

We let E represent the employment growth which is used here as a proxy for economic growth. Clearly, this measure has shortcomings as a measure of economic growth, but when we also let P represent population growth in the same period, we filter out much of the influence of variables omitted from the equation (such as other costs, "quality of life," etc.) that might be argued important in state economic growth. In the equations below, BT and PT represent business taxes and personal taxes, respectively. With this experimental design, we find that:

$$E = -0.12 + \underset{(0.35)}{0.0012\ BT} + \underset{(3.96)*}{1.62\ P} + e$$

$$E = 0.044 - \underset{(1.0)}{0.0000078\ PT} + \underset{(3.71)*}{1.51\ P} + e$$

* Absolute t-statistics are in parentheses. The coefficients identified are statistically significant at the 0.005 level with 8 degrees of freedom.

Note that only the coefficients for population growth (P), are statistically significant. In other works, state business and personal taxes are not significantly correlated to employment growth in either equation.

Other statistical tests such as two-stage least squares, which correct the estimates for the interactive relationship between population and employment growth, yielded similar results. The latter technique yielded less significant results overall, although it did yield the expected signs for the coefficients of the tax variables, indicating that lower taxes were associated with more growth. However, even though the signs were correct, the coefficients were not significant and elasticity measures were very low, indicating a very minimal impact of taxes on economic development.

This test may be questioned because it is, admittedly, crude. However, it offers the kind of econometric result, when considered along with the findings of previous researchers (Atkinson, 1984; Aulde, 1980; Bowman, 1984; Evans and White, 1980) and the findings above, that suggests that further analysis of the possible significance of the impact of state tax levels on economic development would likely prove fruitless.

Theories of economic development, state and local government taxations and expenditure policies, and, particularly, the logic of the Tiebout Model (Tiebout 1956), suggest that market forces will tend to counteract cost differentials between localities. That is, as firms are attracted to low cost or low tax areas, costs and taxes in these areas will tend to rise because of the upward sloping supply curve of local resources and services in the public and private sectors. Hence, if the market is in equilibrium, apparent business tax and employee take-home pay differentials are compensated by other factors. In disequilibrium, tax advantages and advantages in the cost of doing business, as well as cost of living differentials, will be dissipated in the long run by firms' and individuals' migration decisions.

In short, our efforts to describe business tax differentials in the eleven western states suggests that while they exist, they do not contribute significantly to the economic competitiveness of these states. Indeed, in the 1980s, a favorable tax climate is likely to be one where state and local taxes are not going up very fast. However, it is appropriate to reiterate the caution that since many state expenditures funded out of personal and business taxes serve to lower the cost of doing business in a state local area, apparent tax advantages may be purely illusionary.

APPENDIX: NEVADA'S TAX CLIMATE

The research presented above can be used to make the case that Nevada has one of the best personal and business tax climates in the western United States. Using the benchmarks developed in this research, Table 5 shows Nevada with the fifth best business tax climate; and Table 7 shows that Nevada workers would have the third highest take-home pay as a percent of gross pay. Both of these findings certainly shed a favorable light on Nevada's tax climate.

This appendix has been provided to simply restate the above, if it wasn't already obvious to the Nevada reader, and to pass along some of the comments of Nevada reviewers on this comparison and other things that should be considered. These reviewers represented business, government, and academe in Nevada. Their comments were both helpful and insightful. As to be expected, there were different perspectives.

Several comments were on Nevada and other state's tax laws concening interpretations of the tax base and rate in various local areas. It was correctly pointed out by one reviewer, for example, that Nevada Revised Statutes (372.1) exempts goods purchased for resale from sales and use taxes. While other states have similar definitions of retail sales and use taxation, if we assume that firms are exempted from sales and use taxes, Nevada could move from fifth place to tie for second place with Washington for the best business tax climate, behind New Mexico.

This result is obtained because Nevada's sales and use tax is third highest in the region, behind California and Washington. By eliminating the sales and use tax, or by altering other benchmark assumptions about the hypothetical firm or employee, we could obviously move Nevada upward or downward in the ranking.

That, however, has not been the point of this exercise. As we pointed out above, a firm's tax burdens will vary from our calculations according to their own unique cost structures. Some may pay considerably less in sales and use taxes than we have calculated, but some may pay more. Our efforts have focused on establishing a benchmark that could be used for comparison purposes.

Another reviewer's response was that it was good to see the importance of taxes, as they relate to economic development policy and programs, put into perspective. The point was made that, if state tax differentials make only a 1.5-percent difference in business earnings between the states with the highest and lowest taxes, Nevada should not be content with low taxes as a substitute for programs, legislation, and other actions which promote the development of the state.

A final point that was made by several reviewers concerns tax stability. Two aspects of tax stability were identified by reviewers as important to economic development in Nevada.

One aspect of stability is political. That is, it was pointed out that firms may be willing to relocate or expand in a relatively high tax state if there are reasonable assurances that the tax burden will not change. An equally important factor is that if circumstances necessitate changes, a firm or industry will not be forced to bear a disproportionate burden. In short, as is pointed out by every tax and public finance theorist, the perceived equity of the tax may be as important or more important than the level of taxation.

Another aspect of stability raised by reviewers concerning Nevada's situation is cyclical stability—the ability of the tax system to generate stable revenues over the business cycle. This issue was clearly a problem for Nevada during the 1982-83 recession, and forced the legislature and the governor to make some difficult choices.

The policy issues raised by this reviewer concern the extent to which the state relies on gaming taxes, versus property, sales, and use taxes, and other possible forms of taxation. The reviewer's assessment of the problem was that Nevada needs to broaden its tax base. From our perspective, however, this is an incomplete solution even if it were politically feasible. A personal or corporate income tax, for example, may be as cyclically unstable as the sales and use tax and would certainly be less stable than a property tax. On the other hand, during inflationary periods a sales and use tax or income tax may be more stable, in terms of purchasing power, than the property tax.

Ever since the tax "shift" from property tax to sales and use tax was passed by the 1981 Nevada Legislature, the state has been more "inflation stable" than under the pre-1981 tax structure. However, in the early 1980s we had the lowest rates of inflation since the early 1970s. As a consequence of lower revenue growth due to relative price stability in the early 1980s, growth in state revenues have been relatively flat. At the same time, Nevada has been one of the fastest growing states in the U.S. over the past decade.

The past has presented a dilemma for financing public services and investment in Nevada. There are no easy answers, but there are clearly many alternatives and factors to be considered. Fortunately, this research has revealed that economic development and diversification in the state does not hinge critically on having high or low taxes. The evidence presented above and Nevada's rapid growth over the past decade suggest that Nevada is highly competitive with other states in terms of attracting new industry, but largely for reasons unrelated to taxes.

Footnotes:

[1]Due to the reporting delays, IRS data lags behind FTC data by approximately three years. Consequently, fourth quarter 1984 FTC financial data had to be used with 1981 IRS data. The impact of this on the contents of Tables 3 and 4 is that the "hypothetical" firm depicted there is probably slightly larger than the "average" manufacturing firm in this period. Hence, our "hypothetical firm" is not truly representative of firms in the manufacturing sector, but it does serve as a useful benchmark for comparing tax burdens.

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Nevada Economic Indicators

Statewide Statistical Data

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985		PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985	
Total Labor Force (000's)	504.8	504.6	502.7	504.0	–	.9	+	.1
Total Employment (000's)	466.2	462.6	461.3	463.4	–	1.1	–	.2
Unemployment (000's)	38.5	42.0	41.4	40.6	+	2.0	+	7.8
Unemployment Rate	7.6	8.3	8.2	8.0	+	3.0	+	7.6
Unemployment Rate (Seasonally Adjusted)	8.1	8.5	7.7	8.1	–	2.8	+	7.5
Agricultural Empl. (000's)	5.3	4.2	3.8	4.4	–	33.2	+	0.0
Establishment Based Industrial Employment								
Total All Industries (000's)	450.8	450.0	449.2	450.0	+	.1	+	2.5
Mining	6.9	6.9	6.9	6.9	–	1.0	–	1.0
Contract Construction	24.9	23.8	24.3	24.3	–	6.4	+	4.0
Manufacturing	21.3	21.3	21.3	21.3	–	1.2	–	.6
Transportation & Utilities								
Transportation	14.1	14.2	14.4	14.2	+	1.2	+	6.0
Railroads	1.4	1.4	1.4	1.4	+	0.0	+	0.0
Air	2.7	2.8	2.7	2.7	+	0.0	–	1.2
Public Utilities	11.5	11.5	11.5	11.5	–	.3	–	1.4
Total Trade	90.7	92.6	93.8	92.4	+	2.1	+	2.9
Wholesale Trade	15.4	15.5	15.4	15.4	–	.2	+	1.5
Retail Trade	75.3	77.1	78.4	76.9	+	1.2	+	3.1
Finance, Ins., Real Estate	21.3	21.3	21.3	21.3	+	.5	+	2.6
Service Industries	197.4	197.5	194.5	196.5	–	1.5	+	2.0
Hotels, Amusement and Recreation Combined	126.8	125.5	122.3	124.9	–	3.0	+	2.3
Medical and Health	16.2	18.1	18.1	17.5	+	8.0	+	8.0
Total Government	62.7	60.9	61.2	61.6	+	5.2	+	1.8
Federal	10.4	10.3	10.3	10.3	–	2.2	+	4.7
State and Local	52.3	50.6	50.9	51.3	+	6.8	+	1.3
Education	23.4	23.7	23.9	23.7	+	26.3	+	3.6
Average Weekly Earnings in Selected Industries								
Mining	552.98	570.21	584.55	569.25	+	1.0	+	1.9
Construction	595.79	506.55	599.14	567.16	–	4.1	–	2.3
Manufacturing	364.97	365.71	380.88	370.52	+	1.2	–	.9
Public Utilities	540.70	540.09	525.76	535.52	+	.4	+	.9
Trade	284.24	283.41	282.05	283.23	–	1.3	+	1.9
Average Weekly Hours in Selected Industries								
Mining	43.0	43.1	43.3	43.1	–	.1	+	.9
Construction	36.8	31.6	38.6	35.7	+	1.7	+	2.8
Manufacturing	39.8	40.1	41.4	40.4	–	.1	+	.2
Public Utilities	40.9	40.7	39.8	40.5	–	.6	–	3.2
Trade	34.0	33.5	33.9	33.8	–	2.8	–	.8
Average Hourly Earnings in Selected Industries								
Mining	12.86	13.23	13.50	13.20	+	.9	+	1.0
Construction	16.19	16.03	16.37	16.20	+	.1	–	2.6
Manufacturing	9.17	9.12	9.20	9.16	–	.4	–	1.0
Public Utilities	13.22	13.27	13.21	13.23	+	1.2	+	4.2
Trade	8.36	8.46	8.32	8.38	–	.5	+	2.7

Statewide Statistical Data (Continued)

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
Construction Activity						
Residential ($000's)	101,000	81,900	53,000	235,900	+ 24.1	+ 57.6
Nonresidential ($000's)	55,900	57,600	46,100	159,600	+ 41.9	+ 99.7
Nonbuilding ($000's)	15,700	18,100	24,300	58,100	+ 3.4	+ 23.9
Total ($000's)	172,600	157,600	123,400	453,600	+ 26.4	+ 64.1
# of New Dwelling Units	808	530	713	2,051	– 42.2	– 32.3
Tax Collections ($)						
Liquor	1,441,593	1,121,187	1,124,525	3,687,305	– 3.3	+ 4.3
Cigarette	1,866,061	1,426,318	1,558,278	4,850,657	– 4.8	– .8
Fuel	4,190,819	4,213,014	3,873,352	12,277,185	– 7.0	+ 66.6
Quarterly Taxable Sales ($000's)	–	–	–	2,196,472	+ 3.0	+ 7.5
Quarterly Gaming Revenues ($000's)	–	–	–	766,638	– 13.8	+ 3.5
Highway Traffic Flow						
17 Selected Stations (Avg. Daily)	118,221	96,989	101,807	105,672	– 25.4	+ 2.5

† Revised.

Las Vegas Standard Metropolitan Statistical Area

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
Total Labor Force (000's)	283.3	283.5	284.2	283.7	– .1	+ .3
Total Employment (000's)	259.1	259.4	259.7	259.4	+ .1	+ .5
Unemployment (000's)	24.2	24.1	24.5	24.3	– 3.1	+ 4.1
Unemployment Rate	8.5	8.5	8.6	8.5	– 3.0	+ 3.6
Unemployment Rate (Seasonally Adjusted)	8.8	8.5	7.9	8.4	– 7.0	+ 2.4
Agricultural Employment (000's)	.9	.7	.7	.8	– 34.3	+ 0.0
Establishment Based Industrial Employment						
Total All Industries (000's)	252.7	254.0	254.8	253.8	+ 1.1	+ 3.2
Mining	.3	.3	.3	.3	– 10.0	– 25.0
Contract Construction	14.9	14.7	14.9	14.8	– 4.3	+ 6.7
Manufacturing	7.6	7.6	7.6	7.6	– .4	+ .9
Transportation & Utilities						
Transportation	8.5	8.5	8.6	8.5	– 27.3	+ 7.6
Railroads	.5	.5	.5	.5	+ 0.0	+ 0.0
Air	2.1	2.1	2.1	2.1	+ 1.6	– 3.1
Public Utilities	6.1	6.1	6.1	6.1	+ 1.1	– 1.1
Total Trade	51.7	53.0	53.9	52.9	+ 2.7	+ 3.5
Wholesale Trade	7.8	7.8	7.8	7.8	– .4	+ .4
Retail Trade	43.9	45.2	46.1	45.1	+ 3.2	+ 44.3
Finance, Ins., Real Estate	12.6	12.6	12.7	12.6	+ .5	+ 5.0
Service Industries	120.5	120.5	119.9	120.3	– .6	+ 2.2
Hotels, Gaming & Recreation	76.6	76.8	75.9	76.4	– 1.1	+ 2.7
Total Government	30.5	30.7	30.8	30.7	+ 9.1	+ 5.4
Federal	5.6	5.7	5.6	5.6	+ 1.2	+ 9.7
State and Local	24.9	25.0	25.2	25.0	+ 11.1	+ 4.5
Education	12.0	12.1	12.2	12.1	+ 29.6	+ 5.2
Construction Activity						
Las Vegas						
Residential ($000's)	8,954	5,726	19,614	34,294	+ 24.7	+ 66.6
Nonresidential ($000's)	11,921	7,286	14,603	33,810	+ 129.2	– 49.0
Total Value ($000's)	20,875	12,012	34,217	67,104	+ 58.9	+ 43.2
# of New Family Units	199	117	626	942	+ 48.1	+ 8.7
North Las Vegas						
Residential ($000's)	–	–	–	0	– 100.0	– 100.0
Nonresidential ($000's)	–	–	–	0	– 100.0	– 100.0
Total Value ($000's)	–	–	–	0	– 100.0	– 100.0
# of Permits	–	–	–	0	– 100.0	– 100.0
Energy Consumption						
Sales (000's KWH)	–	–	–	0	–	– 100.0
# of Customers	–	–	–	0	–	– 100.0
Taxable Sales ($000's)	–	–	–	1,196,227	+ 7.0	+ 7.2
Gaming Revenues ($000's)	–	–	–	539,019	– 3.3	+ 6.7
Air Transportation-McCarran						
Passengers (Arr. & Depart.)	1,026,347	946,353	814,194	2,786,894	+ 3.3	+ 9.0
Cargo Enplaned (lbs.)	1,170,404	1,125,142	1,291,240	3,586,786	+ 17.6	– 33.3
Cargo Deplaned (lbs.)	2,100,683	2,111,191	2,222,905	6,434,779	+ 26.6	– 23.2
Highway Traffic Flow						
4 Selected Stations (Avg. Daily)	32,790	30,574	31,874	31,746	– 16.4	+ 1.2
Room Tax ($)						
Clark County	–	–	–	0	–	– 100.0
Las Vegas City	–	–	–	0	–	– 100.0
SMSA Total	–	–	–	0	–	– 100.0

†Revised.

Reno Standard Metropolitan Statistical Area

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
Total Labor Force (000's)	137.6	138.5	136.6	137.6	– .2	– .0
Total Employment (000's)	129.6	128.2	127.1	128.3	– 1.1	– 1.1
Unemployment (000's)	8.0	10.3	9.5	9.3	+ 13.5	+ 16.8
Unemployment Rate	5.8	7.4	6.9	6.7	+ 12.3	+ 16.9
Unemployment Rate (Seasonally Adjusted)	6.5	8.0	6.6	7.0	+ 6.0	+ 17.9
Agricultural Employment (000's)	.6	.5	.4	.5	– 34.8	+ 0.0
Establishment Based Industrial Employment						
Total All Industries (000's)	125.3	124.6	123.8	124.6	+ 0.0	+ 1.7
Mining	.9	.8	.9	.9	+ 8.3	+ 8.3
Contract Construction	6.4	5.8	6.0	6.1	– 8.1	+ 3.4
Manufacturing	8.0	8.2	8.2	8.2	– .6	– 2.8
Transportation & Utilities						
Transportation	4.1	4.1	4.2	4.1	+ .8	+ 6.0
Railroads	.4	.4	.4	.4	+ 0.0	+ 0.0
Public Utilities	4.1	4.1	4.1	4.1	+ 0.0	+ 0.0
Total Trade	27.2	27.7	28.0	27.6	+ 3.4	+ 2.2
Wholesale Trade	6.5	6.5	6.5	6.5	+ 2.1	+ 5.4
Retail Trade	20.7	21.2	21.5	21.1	+ 3.8	+ 1.3
Finance, Ins., Real Estate	6.7	6.7	6.7	6.7	+ 0.0	– .5
Service Industries	50.6	51.7	50.1	50.8	– .8	+ 4.4
Hotels, Gaming & Recreation	31.8	31.1	29.5	30.8	– 4.6	+ 1.4
Total Government	17.3	15.5	15.6	16.1	+ .2	– 5.3
Federal	2.7	2.7	2.7	2.7	– 2.4	– 3.6
State and Local	14.6	12.8	12.9	13.4	+ .7	– 5.6
Education	7.3	7.5	7.5	7.4	+ 24.6	+ 2.3
Construction Activity						
Reno						
Residential ($000's)	–	–	–	0	– 100.0	– 100.0
Nonresidential ($000's)	–	–	–	0	– 100.0	– 100.0
Total Value ($000's)	–	–	–	0	– 100.0	– 100.0
# of New Family Units	–	–	–	0	– 100.0	– 100.0
Sparks						
Residential ($000's)	535	362	2,050	2,947	– 54.5	– 77.0
Nonresidential ($000's)	1,557	14,475	2,998	19,030	+ 359.6	+ 182.8
Total Value ($000's)	2,092	14,837	5,048	21,977	+ 107.1	+ 12.3
# of New Family Units	–	–	–	0	– 100.0	– 100.0
Washoe County (Unincorporated)						
Residential ($000's)	4,692	3,224	2,537	10,453	– 28.5	+ 1.1
Nonresidential ($000's)	3,875	615	347	4,837	– 5.7	– 29.2
Total Value ($000's)	8,567	3,839	2,884	15,290	– 22.6	– 10.9
# of New Family Units	49	33	30	112	– 26.8	– 24.3
Taxable Sales ($000's)	–	–	–	524,491	– 2.6	+ 7.1
Gaming Revenues ($000's)	–	–	–	142,282	– 26.5	– 2.9
Air Transportation-Reno						
Passengers (Arr. & Depart.)	250,313	213,509	174,514	638,336	– 17.6	– 4.3
Cargo Enplaned (lbs.)	525,766	523,676	633,023	1,682,465	+ 9.4	– 28.4
Cargo Deplaned (lbs.)	690,965	662,356	684,333	2,037,654	+ .3	– 7.4
Highway Traffic Flow						
7 Selected Stations (Avg. Daily)	70,136	54,797	58,758	61,230	– 28.3	+ 3.9
Room Tax ($)						
Washoe County	84,454	59,748	41,616	185,818	– 41.3	– 11.1
Reno	925,657	898,420	594,385	2,418,462	– 10.4	– 1.2
Sparks	109,135	107,922	70,197	287,254	– 3.9	+ 71.0
SMSA Total	1,119,246	1,066,090	706,198	2,891,534	– 12.8	+ 2.4

† Revised.

Nevada Statistical Data by County

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
CARSON CITY						
Total Labor Force	20,680	20,730	20,540	20,650	– 2.4	– 1.7
Total Employment	19,300	19,000	18,940	19,080	– 2.0	– 1.1
Unemployment	1,380	1,730	1,600	1,570	– 6.7	– 7.6
Unemployment Rate	6.7	8.3	7.8	7.6	– 4.6	– 6.2
Construction Activity						
Residential Value ($000's)	2,078	2,947	2,596	7,621	+ .9	+ 366.7
Nonresidential Value ($000's)	347	3,729	634	4,710	– 5.4	+ 164.0
Total Value ($000's)	2,426	6,676	3,230	12,332	– 1.6	+ 260.9
# of New Family Units	27	42	37	106	+ 55.9	+ 488.9
Taxable Sales ($000's)	–	–	–	75,353	+ 1.3	+ 9.2
Gaming Revenues ($000's)	–	–	–	8,377	– 30.2	– .8
CHURCHILL						
Total Labor Force	6,630	6,620	6,470	6,573	– 5.2	+ 0.0
Total Employment	6,050	5,870	5,790	5,903	– 6.3	– .7
Unemployment	580	750	680	670	+ 5.8	+ 6.9
Unemployment Rate	8.8	11.3	10.5	10.2	+ 11.7	+ 7.0
Construction Activity						
Residential Value ($000's)	211	131	30	372	– 60.0	– 44.8
Nonresidential Value ($000's)	11	205	64	280	+ 20.2	+ 4.9
Total Value ($000's)	222	336	94	652	–	– 30.7
# of New Family Units	3	2	1	6	– 50.0	– 40.0
Taxable Sales ($000's)	–	–	–	26,153	+ 14.8	+ 24.5
Gaming Revenues ($000's)	–	–	–	0	–	– 100.0
DOUGLAS						
Total Labor Force	9,640	9,330	9,290	9,420	– 5.2	– 1.6
Total Employment	8,890	8,460	8,420	8,590	– 7.4	– 4.0
Unemployment	750	870	870	830	+ 25.8	+ 32.4
Unemployment Rate	7.8	9.4	9.4	8.9	+ 33.7	+ 35.7
Taxable Sales ($000's)	–	–	–	50,731	– 22.3	– .2
Gaming Revenues ($000's)	–	–	–	53,798	– 43.4	– 8.5
ELKO						
Total Labor Force	14,240	13,980	13,930	14,050	– 3.9	+ .1
Total Employment	13,390	12,920	12,830	13,046	– 5.4	– .5
Unemployment	850	1,060	1,100	1,003	+ 19.4	+ 7.9
Unemployment Rate	6.0	7.6	7.9	7.2	+ 25.7	+ 8.0
Construction Activity						
Elko City						
Residential ($000's)	427	203	44	674	– 85.4	+ 63.2
Nonresidential ($000's)	85	12	4	101	– 75.4	– 86.1
Total Value ($000's)	512	215	48	775	– 84.6	– 32.0
# of New Dwelling Units	6	1	0	7	– 95.4	+ 0.0
Taxable Sales ($000's)	–	–	–	51,393	– 7.2	+ 3.9
Gaming Revenues ($000's)	–	–	–	15,279	– 29.8	+ 2.7
ESMERALDA						
Total Labor Force	410	400	400	403	– 4.0	– 12.9
Total Employment	370	360	360	363	– 2.7	– 7.6
Unemployment	40	40	40	40	– 14.3	– 42.9
Unemployment Rate	9.9	10.3	11.0	10.4	– 6.6	– 29.3
Taxable Sales ($000's)	–	–	–	1,797	+ 24.0	+ 8.3
EUREKA						
Total Labor Force	850	800	770	806	– 12.0	– .4
Total Employment	780	720	700	733	– 13.7	– 3.1
Unemployment	70	80	70	73	+ 10.0	+ 37.5
Unemployment Rate	7.8	9.7	9.6	9.0	+ 29.7	+ 35.5
Taxable Sales ($000's)	–	–	–	13,061	+ 179.7	+ 51.1

Nevada Statistical Data by County (Continued)

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
HUMBOLDT						
Total Labor Force	5,940	5,690	5,720	5,783	– 7.6	– .5
Total Employment	5,470	5,190	5,150	5,270	– 9.8	– 1.5
Unemployment	470	500	570	513	+ 22.2	+ 11.6
Unemployment Rate	7.9	8.9	9.9	8.9	+ 32.8	+ 13.1
Taxable Sales ($000's)	–	–	–	33,988	+ 6.3	+ 50.1
Gaming Revenues ($000's)	–	–	–	1,719	– 36.7	– 11.6
LANDER						
Total Labor Force	2,370	2,350	2,350	2,356	– 4.6	+ 7.0
Total Employment	2,220	2,140	2,130	2,163	– 5.7	+ 4.2
Unemployment	150	210	220	193	+ 9.4	+ 52.6
Unemployment Rate	6.5	8.9	9.3	8.2	+ 14.9	+ 40.3
Taxable Sales ($000's)	–	–	–	8,843	– 3.5	+ 6.1
LINCOLN						
Total Labor Force	2,810	2,800	2,780	2,796	– 1.4	+ 0.0
Total Employment	2,660	2,630	2,610	2,633	– 2.1	– 1.1
Unemployment	150	170	170	163	+ 11.4	+ 22.5
Unemployment Rate	5.2	6.0	6.2	5.8	+ 11.5	+ 20.0
Taxable Sales ($000's)	–	–	–	0	– 100.0	– 100.0
LYON						
Total Labor Force	6,040	5,990	5,930	5,986	– 5.1	+ 2.5
Total Employment	5,390	5,200	5,150	5,246	– 7.0	– .8
Unemployment	650	790	780	740	+ 10.4	+ 33.7
Unemployment Rate	10.8	13.1	13.1	12.3	+ 15.6	+ 30.7
Taxable Sales ($100's)	–	–	–	14,113	– 10.3	+ 2.1
MINERAL						
Total Labor Force	3,560	3,540	3,580	3,560	– 2.6	– 2.4
Total Employment	3,340	3,250	3,240	3,276	– 3.3	– 4.4
Unemployment	220	290	340	283	+ 6.2	+ 28.8
Unemployment Rate	6.3	8.2	9.4	8.0	+ 9.1	+ 32.0
Taxable Sales ($000's)	–	–	–	6,535	– 4.0	+ 22.4
NYE						
Total Labor Force	3,940	3,940	3,930	3,936	+ 3.1	+ 5.8
Total Employment	3,530	3,490	3,470	3,496	+ 2.1	+ 1.2
Unemployment	410	450	460	440	+ 11.9	+ 67.1
Unemployment Rate	10.5	11.5	11.8	11.3	+ 9.7	+ 58.7
Taxable Sales ($000's)	–	–	–	22,863	+ 30.9	+ 22.6
Gaming Revenues ($000's)	–	–	–	1,530	– 1.4	+ 23.1
PERSHING						
Total Labor Force	1,730	1,660	1,540	1,643	– 7.7	+ 2.3
Total Employment	1,620	1,550	1,420	1,530	– 9.5	+ .2
Unemployment	110	110	120	113	+ 25.9	+ 41.7
Unemployment Rate	6.4	6.5	7.6	6.8	+ 35.8	+ 40.4
Taxable Sales ($000's)	–	–	–	3,544	– 19.9	– 2.5
STOREY						
Total Labor Force	1,370	1,260	1,250	1,293	– 13.2	– 7.8
Total Employment	1,300	1,180	1,170	1,216	– 12.7	– 1.6
Unemployment	70	80	80	76	– 20.7	– 54.0
Unemployment Rate	5.3	6.1	6.6	6.0	– 5.8	– 49.0
Taxable Sales ($000's)	–	–	–	3,248	– 8.2	+ 73.9
Gaming Revenues ($000's)	–	–	–	386	– 58.8	– 2.8
WHITE PINE						
Total Labor Force	3,660	3,570	3,520	3,583	– 7.6	– 2.5
Total Employment	3,310	3,130	3,120	3,186	– 7.5	+ .5
Unemployment	350	440	400	396	– 8.5	– 21.2
Unemployment Rate	9.6	12.2	11.3	11.0	– 1.2	– 19.9
Taxable Sales ($000's)	–	–	–	12,237	– 12.9	+ .1
Gaming Revenues ($000's)	–	–	–	494	– 23.2	+ 11.3

† Revised.

Selected U.S. Economic Indicators

Consumer Price Index & Indexes of Selected Categories
All Urban Consumers
(1967 = 100%)

	October 1985	November 1985	December 1985	4th Quarter 1985	PERCENT CHANGE 3rd Quarter-1985 4th Quarter-1985	PERCENT CHANGE 4th Quarter-1984 4th Quarter-1985
All Items	325.5	326.6	327.4	326.5	+ .9	+ 3.5
Food	309.8	311.0	313.2	311.3	+ .5	+ 2.2
Housing	354.4	355.0	355.8	355.1	– 2.3	+ 4.1
Apparel and Upkeep	211.1	211.2	209.0	210.4	+ 2.2	+ 2.8
Transportation	320.9	323.2	324.0	322.7	+ .6	+ 2.2
Medical Care	410.5	413.0	414.7	412.7	+ 1.6	+ 6.6

Producer Price Indexes for Selected Commodity Groupings
(1967 = 100%)

All Commodities	308.0	309.7	310.2	309.3	+ .6	– .2
Fuel and Power	629.2	636.8	640.9	635.6	+ .7	– 2.6
Machinery and Equipment	299.8	300.1	300.2	300.0	+ .2	+ 1.6
Metals and Metal Products	314.3	313.5	313.5	313.8	– .3	– .6
Nonmetallic Mineral Products	350.4	350.8	351.2	350.8	+ .4	+ 3.3
Textile Products & Apparel	210.2	210.2	210.7	210.4	+ .0	+ .3

U.S. Labor Force

Civilian Labor Force (000's)	118,046	117,799	117,478	117,774	+ .9	+ 3.1
Total Employment (000's)	107,813	107,969	108,206	107,996	– .4	+ 1.9
Unemployment (000's)	7,917	7,815	7,717	7,816	– 5.1	– 5.1
Unemployment Rate	6.7	6.6	6.6	6.6	– 6.1	– 7.9
Unemployment Rate (Seasonally Adjusted)	7.1	7.0	6.9	7.0	– 2.3	– 2.8

DATA SOURCES

Information for statistical tables were developed in cooperation with the following sources:

Airport Authority of Washoe County; Carson City Department of Public Works; Churchill County; City of Elko; City of Las Vegas, Nevada Building and Safety; City of North Las Vegas; City of Reno, Building and Safety Department; City of Sparks; Clark County Department of Aviation; Las Vegas Convention/Visitors Authority; Nevada Power Co.; Reno-Sparks Convention/Visitors Authority; State of Nevada Department of Taxation; State of Nevada Department of Transportation; State of Nevada Employment Security Department; State of Nevada State Gaming Control Board; U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Washoe County Building and Safety Division; White Pine County Regional Planning Commission.